

THE  
AMERICAN MUSEUM,

OR

REPOSITORY

OF ANCIENT AND MODERN

FUGITIVE PIECES, &c.

PROSE AND POETICAL,

For APRIL, 1788.



..... "With sweetest flow'rs enrich'd,  
"From various gardens cull'd with care." .....  
..... "Collegia revirescunt."



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*Observations and conjectures on the earthquakes of New England. By professor Williams, F. A. A.*

IN looking over some of the histories of New England, I observed that the religious turn of mind, which distinguished the first planters of New England, had led them to take notice of all the earthquakes which happened in the country, after their arrival. Several of them seemed to be pretty well described: and in some of their phenomena, there seemed to be an agreement. As several of these accounts were contained in writings but little known, I thought it might be of some service to philosophy, if a particular account of them could be collected. This is what I have attempted in the following treatise. In the first part of it, I have set down the most particular accounts I could find of their phenomena. The second contains observations and remarks upon their agreement and operations. In the third, conjectures are proposed as to their causes: and in the fourth, some general reflexions are added, as to their nature, use, and effects.

The most likely way to come to the knowledge of their causes, is to

observe all the phenomena that attend them. That the reader might have a true account of these phenomena, it was my endeavour, in the accounts and observations, to note all the particulars, which seemed to relate to them, however minute or trivial some of them might appear. With this view I consulted all the accounts I could find. From several of them (the honourable professor Winthrop's lectures on earthquakes, in particular) I have received much help. Others referred to authors, of which I could not have the advantage of a perusal. That gentlemen of science might have it in their power to examine with what fidelity and care the accounts are drawn up, or how far they might be depended upon, I have constantly referred to the authors from which they are taken. Some of the accounts, I am sensible, are greatly imperfect. As all our conjectures, theories, and reasonings, must depend on the accounts, it is much to be wished, that something more accurate and perfect, as to several of them, might be transmitted down to posterity,

What is proposed, as to their causes, will be judged of, by the degree of probability and evidence with which it is attended. In all

philosophical hypotheses, a writer is in danger of making more of his subject than will bear a strict examination. I have found some difficulty in guarding against this: and whether, at last, I have not carried conjectures, in some things, too far, the reader must judge for himself. After all, the revolutions of time will afford the surest proof of the truth or errors contained in the following pages. I would, therefore, make it my request to posterity, to note, with care and accuracy, the phenomena that may attend any future earthquakes in New England: that, if what is here advanced as to their causes, shall be found to be true, it may be confirmed: but if found to be false, it may meet with the fate of other errors, and be rejected. The cause of truth and science is of infinitely more importance, than any of our schemes or conjectures: and this is what I wish may prevail, in all countries, and in all ages.

*An historical account of the earthquakes of New England.*

THE English arrived at Plymouth, in New England, November 11, 1628. The first earthquake that happened in the country, after their arrival, was on July 2, 1638. O. S. The manner of its approach, and the violence to which it arose, are pretty well described in accounts which are yet existing. It is described as having been preceded with a rumbling noise or low murmur, like remote thunder. As the noise approached, the earth began to quake, till the shock arose to such a violence, as to throw down the pewter from the shelves, stone walls, and the tops of several chimnies; and, in some places, made it difficult for people to avoid falling. The course of this earthquake in some of the accounts, is described as being from

the westward to the eastward. In others, it is represented as coming from the northward, and going southward. It is not likely any great care or accuracy was employed, to determine what particular point of the compass the roar or shake came from; but only to fix it to that, which was judged to be the nearest cardinal point, which some thought was the west, others the north. It is most probable, therefore, that a middle course, from about north west to south east, was the true; as this will best agree with, and reconcile all the other accounts that were given of its course. To what extent this earthquake reached on any point of the compass, we have no way to determine. It is said in general, that it reached far into the land, and was observed by the Indians much beyond any of the English settlements, which then were but of small extent: and also, that some vessels, which were near the coast, were shaken by it. In about half an hour there was another shock, but not so long or strong as the former\*.

Omitting a shock on October 25, 1653, as too small to occasion a general notice, the next memorable earthquake was in 1658. In all the ancient histories, this is mentioned as a great earthquake. But I cannot find any account of the month, day, violence, course, effects, extent, or any other particulars of it.

On January 26, 1663, O. S. "at the shutting in of the evening†," another memorable earthquake shook New England. From the general expressions the writers, who speak of

NOTES.

\* Vide Johnson's, Hubbard's, and Morton's accounts of this earthquake.

† Morton.



it, use, it seems to have been one of the greatest this country ever felt. It is represented as being preceded with a great noise and roar. Mention is made of the houses rocking, the pewter falling from the shelves, the tops of several chimnies falling in, the inhabitants running out into the streets, passengers being unable to keep on their feet, &c. As to its course, duration, or extent, nothing is to be found in any of the New England writers. But they are well described in the accounts that were given of this earthquake in Canada.

At the same time, Feb. 5, 1663, N. S. "about half an hour after five in the evening," a most terrible earthquake began there. The heavens being very serene, there was suddenly heard a roar, like that of a great fire. Immediately the buildings were shaken with amazing violence. The doors opened and shut of themselves, with a fearful clattering. The bells rang, without being touched. The walls split asunder. The floors separated, and fell down. The fields put on the appearance of precipices: the mountains seemed to be moving out of their places: and amidst the universal crash which took place, most kinds of animals sent forth fearful cries and howlings.

The duration of this earthquake was very uncommon. The first shock continued half an hour before it was over: but it began to abate in about a quarter of an hour after it first began. The same day, about eight o'clock in the evening, there was a second shock, equally violent as the first: and in the space of half an hour, there were two others. The next day, about three hours from the morning, there was a violent shock, which lasted a long time: and the next night, some counted thirty-two shocks; of which, many were violent. Nor did these earthquakes cease until the July following.

New England and New York were shaken with no less violence than the French country. And, throughout an extent of three hundred leagues, from east to west—and more than one hundred and fifty, from north to south—the earth, the rivers, and the banks of the sea, were shaken with the same violence. The shocks sometimes came on suddenly; at other times by degrees. Some seemed to be directed upwards: others were attended with an undulatory motion.—And throughout the vast extent of country, to which they reached, they seemed to resemble the motions of an intermitting pulse, with irregular returns; and which commenced through the whole at the same hour.

This earthquake was attended with some remarkable effects. Many fountains and small rivers were dried up. In others, the water became sulphureous: and in some, the channel, in which they ran before, was so altered, that it could not be distinguished. Many trees were torn up, and thrown to a considerable distance: and some mountains appeared to be much broken and moved. Half way between Tadoussac and Quebec, two mountains were shaken down: and the earth, thus thrown down, formed a point of land, which extended half a quarter of a league into the river St. Lawrence. The island Aux Coudres, became larger than it was before: and the channel of the river became much altered\*.

From these accounts, it is evident, that Canada was the chief seat of these concussions: and of consequence, as it proceeded from those

## NOTE.

\* Vide Frezier's voyage, p. 210. 211. Journal des Sçavans, Mai, 1678. Charlevoix's histoire de la Nouvelle France.

parts, its course must have been some point between the west and north; probably much the same with that of 1638.

After an interval of sixty-four years, (in which there had been several small shocks, but none so violent as to occasion a very long remembrance†) there came on another very memorable one, October 29, 1727, O. S. About 10 h. 40, P. M. in a very clear air and serene sky, when every thing seemed to be in a most perfect calm and tranquillity, a heavy rumbling noise was heard. At first, it seemed to be at a distance, but increased as it came near, till it was thought equal to the roar of a blazing chimney, and at last to the rattling of carriages, driving fiercely on pavements. In about half a minute from the time the report was first heard, the earthquake came on. It was observed, by those who were abroad, that as the shake passed under them, the surface of the earth sensibly rose up, and then sunk down again; which must have produced an undulation of the earth or a motion like that of a wave, both perpendicular and horizontal: first rising in a perpendicular direction, and as it subsided, spreading itself in a horizontal direction all around. The nature, therefore, or kind of the

motion, was undulatory. The violence of the shock, like that of the other great earthquakes, was such as to cause the houses to shake and rock, as if they were falling to pieces. The doors, windows, and movables, made a fearful clattering. The pewter and china were thrown from their shelves. Stone walls and the tops of several chimnies were shaken down. In some places, the doors were unlatched and burst open, and people in great danger of falling. There were various opinions as to the duration of this earthquake. The most probable is, that the shake began about half a minute after the roar was first heard, and rose to its greatest height in about a minute more: and was about half a minute in going off. Whence, the duration may be supposed to have been about two minutes. It was very generally agreed that the course of this earthquake was from north-west to south-east. "The noise and shakes," it is said, "seemed to come from the north-westward, and to go off south-easterly: and so the houses seemed to reel." This account of its course, was confirmed by all the others, one or two excepted, which differ so much from one another, that nothing can be determined from them. With regard to the limits of this earthquake, it extended from the river Delaware, in Pennsylvania, south-west, to Kennebeck, north-east. At both these places, it was sensibly felt; though the shake was but small. Its extent, therefore, from south-west to north-east, must at least have been seven hundred miles, and probably many more. As to its other limit, from north-west to south-east, we have no way to determine how far it extended. It was felt by vessels at sea, and in the most remote westerly settlements. As it came from the unknown parts, between the west and

## NOTE.

† In Phil. Transf. No. 437, mention is made of earthquakes in 1660, 1665, 1668 and 1669. Dr. Mather speaks of earthquakes in 1670 and in 1705. There was another in 1720, on January 8. But these, with some others, having been too small to occasion a general notice, and being only mentioned without any particular account of them, are passed by, as not affording us any light with regard to the nature, cause, or effects of these phenomena.

north, and passed off into the sea, it is probable it might run some thousand miles in such a course.

There were several effects attending this earthquake, which seem worthy of remark. Besides what is common, as to the throwing down pewter, fences, &c. it was observed, that several springs of water, and wells, which were never known to be dry or frozen, were sunk far down into the earth. Some were dried up. The quality of the water mended in some, and so altered in others, as to freeze in moderate weather. Some spots of firm dry soil, became perfect quagmires; and others, which were full of mire and water before, became more dry. The centre of this earthquake, or place of greatest violence, seems to have been at Newbury, a town which lies at the mouth of Merrimack River. "There," according to dr. Colman's account, "the earth opened, and threw up several loads of a fine sand and ashes, mixed with some small remains of sulphur; so that, taking up some of it between the fingers, and dropping it into a chaffing-dish of bright coals, in a dark place, once in three times the blue flame of the sulphur would plainly arise, and yield a very small scent. By this it seems evident, that it was a sulphureous blast which burst open the ground, and threw up the calcined bituminous earth\*."

NOTE.

\* Phil. Transf. No. 409. What is here said of its being a sulphureous blast, seems to be confirmed by the account which mr. Dudley sent to the royal society, in which he says, "A clergyman, in a town about twenty miles from Boston, assured me, that immediately after the earthquake, there was such a stink,

Concerning this earth which was thrown up, the rev. mr. Lowel, minister in Newbury, mentions an uncommon circumstance. "One thing," says he, "I may add, which is very remarkable, and which may be depended on: that about the middle of April, the fine sand, which was thrown up in several places in this parish, at the first great shock, October 29, had a very offensive stench; nay, was more nauseous than a putrifying corpse: yet, in a very little while after, it had no smell at all. How long it was, before it began to have this stench, I am not certain. I know it had it not at first: and, I believe, it was covered with snow till a little while before.— There is no smell now†." These accounts refer to matters so easy to be known, that there is no room to suspect that the authors (both gentlemen of a philosophic taste, as well as of eminence in their particular professions) could be mistaken. And it seems highly probable, from their observations, that the sand, which was thrown out by the earthquake, contained some very noxious, ill-scented vapour, or effluvia; which, so long as there was nothing to confine it, passed away in quantities too small to be perceptible by the senses: but when it was kept together by the snow, gathered in such quantities,

NOTE.

"or strong smell of sulphur, that the family could scarce bear to be in the house for a considerable time that night. The like is also confirmed from other places. Persons of credit do also affirm, that just before, or in the time of the earthquake, they perceived flashes of light." Phil. Transf. No. 437.  
† Letter to dr. Colman. Phil. Transf. No. 409.

as strongly to infect the air, when the melting of the snow gave it liberty to evaporate freely.

Some phenomena were observed a few days before this earthquake, which deserve our notice, as having, probably, some connexion with its approach. The rev. mr. Allin, then minister of Brooklyn, took notice of an uncommon alteration in the water of some wells. "About three days," says he, "before the earthquake, there was perceived an ill-smelling smell in the water of several wells. Not thinking of the proper cause, some searched their wells, but found nothing that might thus infect them. The scent was so strong and offensive, that for about eight or ten days, they entirely omitted using it. In the deepest of these wells, which was about thirty-six feet, the water was turned to a brimstone colour, but had nothing of the smell; and was thick like puddle-water†." We have this account confirmed by mr. Dudley.—"A neighbour of his, who had a well thirty-six feet deep, was, about three days before the earthquake, surprised to find his water, which used to be very sweet and limpid, stink to that degree, that they could make no use of it, nor scarce bear the house when it was brought in: and imagining that some carrion was got into the well, he searched the bottom, but found it clear and good, though the colour of the water was turned wheyish, or pale. In about seven days after the earthquake, the water began to mend: and in three days more, it returned to

NOTE.

† Account of the earthquake of 1727, by mr. Allin.

"its former sweetness and colour\*." And just before the earthquake began, several wells were found to have no water in them, which had great quantities before and after. To whatever cause the alterations in these wells may be ascribed, it can hardly be thought but that they had some connexion with the earthquake, which in a few days ran through the whole country. Several shocks were felt in the northern parts of New-England, for some months after that of October 29: but they were generally small, and of a short duration†.

In 1732, there was an earthquake, which, though small, was of a considerable extent. It came on September 5, O. S. at about 11h. A. M. being attended with a rumbling noise; and was of such violence, as to occasion a considerable jarring of the houses. The duration of it was not more than ten or fifteen seconds. This earthquake was much more evident at Montreal, in Canada, then it was in any part of New England; being attended with considerable damage there. As this was the chief seat of it, it seems to have come from thence, in a north-westerly course, to New England. Its extent, from south-west to north-east, was equal to that of most of the earthquakes that have been in the country; being felt from Maryland to the north easterly parts of New-England: and from north-west to south-east, it reached from Montreal, and probably from many

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\* Phil. Trans. No. 437.

† The account of this earthquake is collected from the printed accounts of it in the philosophical transactions, and by several of the New-England ministers.



miles beyond it, to the sea coast.\*

From the year 1732, though there had been some small shocks, there was none that occasioned a general notice, till 1744. That year, on June 3, O. S. a fair and hot day, there was an earthquake, so considerable, as to be generally felt thro' the province. It began a few minutes after 10h. A. M. being preceded with a very loud report; and is said to have rose to such a violence, as to shake down some bricks from the tops of some chimnies, and also some pieces of stone wall. The course of this earthquake, is said, by some that remember it to have been from the westward to the eastward. As to other particulars I can find no account†.

The next earthquake that shook the whole country, was in the year 1755. November 18, N. S. at 4h. 11' 35" ‡, in a calm serene and plea-

sant night, came on the most violent shock of an earthquake that was ever known in New-England. The first thing observable, was that rumbling noise, or roar, which, as a sound, *sui generis*, seemed a prelude to an earthquake. In about half a minute, the surface of the earth seemed to be suddenly raised up: and, in subsiding, was thrown into an universal trembling, or a very quick jarring vibratory motion, which acted in an horizontal direction. This motion continued for about a quarter of a minute, and then abated for three or four seconds. Then, all at once, came on a violent prodigious shock, as suddenly, to appearance, as a thunder clap breaking upon a house, and attended with a great noise. This sudden and great shock began with the same kind of motion; and was immediately succeeded by quick and violent concussions, jerks and wrenches, attended "with an undulatory, waving motion of the whole surface of the ground, not unlike the shaking and quaking of a very large bog." After this great shock had been gradually declining and going off, near half a minute, there was a sensible revival of it, though of short continuance; and so all by degrees became still and quiet again.

The violence of this earthquake was the greatest of any we have ever had in the country, "In

NOTES.

\* Vide Phil. Transf. No. 429, and for 1757, p. 13, and also professor Kalm's travels, vol. i. p. 44, 2d edit. London. On February 6, 1737, at 4 $\frac{1}{4}$  P. M. and December 7, a little before eleven at night, small earthquakes were felt at Boston: but no particulars are mentioned as to their phenomena.

† Phil. Transf. for 1757, p. 14, and American Mag. for 1744.

‡ The beginning of this earthquake was determined to all the exactness that could be desired, by the following accident.—Professor Winthrop at Cambridge, some time before, having used a pretty long tube, in a particular experiment, shut it up in his clock case, for security. This tube, standing nearly perpendicular, must have been overset by the first shock, which made it impossible for the pendulum to make any oscillation, after the tube had struck against

NOTE.

it. The clock stopped at the time mentioned above. Being a very good one, and having been adjusted by a meridian line, the preceding noon, it must have pointed out the beginning of the earthquake to a great precision. Had the time been as accurately determined at any other distant place, the velocity of its motion might have been determined, to great exactness.

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Boston, besides the throwing down of glass, pewter, and other moveables in the houses, about an hundred chimnies were, in a manner, levelled with the roofs of the houses; and about fifteen hundred shattered, and thrown down in part. Some were broken off several feet below the top; and by the suddenness and violence of the jerks, canted horizontally an inch or two over, so as to stand very dangerously. Some others thus broken off, were turned round several points of the compass, as with a circular motion. The roofs of some houses were quite broken in by the fall of chimnies. The ends of about twelve or fifteen brick buildings were thrown down, from the top to the eaves of the houses. Many clocks were stopped. The vane upon the public market house was thrown down;—the wooden spindle, which supported it, being broken off at a place where it was five inches in diameter, and ten feet in height; and which had stood the most violent gusts of wind. A new vane, upon one of the churches in the town, was bent at the spindle, two or three points of the compass: and a distiller's cistern, made of plank, almost new, and very strongly put together was burst to pieces, by the agitation of the liquor in it; which was thrown out with such force, as to break down one whole side of the shed that defended the cistern from the weather; as also to stave off a board or two from a fence, at the distance of eight or ten feet from it." Much the same things were observed in the country. At Springfield, a town distant about eighty miles in a westerly line from Boston, a spindle on one of their churches, was bent to a right-angle—And through the whole province, much damage was done by the throwing down of stone fences, cellar walls, chimnies, and the like. These things may serve to

give us pretty just ideas of its violence: but it is to be observed, that the violence of the shock was different in different places; and not exactly the same in towns contiguous to one another; or indeed in all the parts of the same town.

There has been no earthquake in the country, whose duration was determined with so much accuracy as was that of this. Professor Winthrop at Cambridge, the day before, had adjusted his clock and watch by a meridian line. His clock was stopped at 4h. 11' 35". Being awakened by the earthquake, he arose, and looking upon his watch found it to be fifteen minutes after four. The jarring continued about a minute after this. The next day the watch was found to have kept time very exactly. So that the duration of the earthquake, taking in the whole of the time from the first agitation of the earth, till it became perfectly quiet, was very nearly four and an half minutes; though the violence of the shock did not last half so long. This observation of its duration at Cambridge, agreed pretty well with some of the same kind made at Boston, by gentlemen who were up, and looked upon their watches when it began and ended. In other places its duration might be different, according to the different violence of the shock.

By the accounts of those who were in the commons and open places when the earthquake began, the course of it was nearly from north-west to south-east. It was almost universally agreed, that the noise and shakes seemed to pass in that direction: and those things which were in such a situation as that they might have been thrown indifferently to any point of the compass, pretty generally lay in that direction.

The extent of this earthquake, was traced to a great distance. On

the south-west, it reached as far as Chesapeake-Bay in Maryland: being felt on the eastern, but not on the western side. To the north-east, it was felt as far as Halifax. It is much more difficult to determine its western or eastern limit. It extended to all our back settlements; was felt at Lake George, and probably many miles beyond: but at Oswego, situate on the south eastern shore of Lake Ontario, and distant from Boston about two hundred and fifty miles west-by-north, it was not felt at all. On the atlantic, the shock was so great, seventy leagues east of Cape Ann, that the people on board a vessel, in that longitude, thought they had run aground, or struck upon a rock, till on sounding, they found they had more than fifty fathom water. By accounts, which were soon after received from the West-Indies, it seems probable that the earthquake reached as far as those islands; or, rather, passed by to the eastward of them. The account was, "That on the 18th of November, about two o'clock in the afternoon, the sea withdrew from the harbour of St. Martin's, leaving the vessels dry, and fish on the banks, where there used to be three or four fathom water: and it continued out a considerable time; so that the people retired to the high lands, fearing the consequence of its return: and when it came in, it arose six feet higher than usual, so as to overflow the low lands. There was no shock felt at the above time."

As this extraordinary motion of the sea happened about nine hours after the great shock was felt in New-England, it seems very likely to have been occasioned by the same convulsion of the earth. As this earthquake went off south-eastward into the Atlantic, it would pass considerably to the eastward of St. Martin's,

which has about  $18^{\circ}$  of north latitude, with  $62\frac{1}{2}^{\circ}$  of west longitude. And this was the case at the island. There was no shock felt; but the motion of the sea was probably owing to a great agitation, raised at a considerable distance, in some part of the ocean, by the passage, or by an eruption of the earthquake, and from thence propagated to that island. And what seems to be a confirmation of this, the length of time was no greater than what seems necessary for such a purpose. We cannot, indeed, state, with great accuracy, the velocity with which the earthquake moved: but yet it is very evident from its duration, and being preceded with a roar, that its motion was not very swift: and that of the waves, raised hereby, and propagated, to the land, must have been much slower: both of which might easily take up nine hours in being propagated, and that in a circular direction, to such a distance as that of Boston and St. Martin's. The extent, therefore, of this earthquake, from south-west to north east, must have been about eight hundred miles: but from north-west to south-east, it reached at least nineteen hundred; and, perhaps, many more.

As the effects of this earthquake, great alterations were observed in the springs, wells and ponds of water: in some, the quality of the water was altered; in others, the quantity. New springs were opened; old ones dried up; the channel in many was much changed; and the water in some was observed to boil up in an unusual manner, for several days both before and after the earthquake. At Pembroke, Scituate and Lancaster, there were chafins made in the earth. At Pembroke, there were four or five of them; out of some of which, water issued, and many cart-loads of a fine, whitish and compressible sort of sand, was spew-



ed\*. Nor were its effects confined to the land;—several of the seafaring men agreed in their accounts, that almost immediately after the earthquake, large numbers of fish, of different sorts, both great and small, came up to the surface of the water, some dead, and others dying. One of the fishing vessels, at that time out upon the banks, took up and brought in several quintals of these fish, which were found in large numbers, dead and dying, upon the surface of the sea.†

## NOTES.

\* Speaking of this sand, “By what I have heard,” says dr. Mayhew, “it was of a sulphureous nature.” It is to be regretted, that no experiments were made with it, to determine, with certainty, whether this was the case or not.

† In phenomena, of whose causes we have so little knowledge, it is best to note every circumstance, however minute, and whether it seems to have much connexion with the supposed causes or not; as we do not know but that they may be of use, when future observations come to be compared with them. For this reason, it may not be amiss to subjoin to the above account. 1. That at the time of the earthquake, there was no alteration in the atmosphere, as to its weight or temperature: the barometer and thermometer not undergoing any alteration. 2. A very great white frost was observed in the morning, much larger than had been for several years. When it was melted, professor Winthrop measured it, and found that it covered the ground  $\frac{7}{8}$  parts of an inch; which was almost double of any there had been for seven years before, and about five or six times as great as what is common in this country. The account of this earthquake is collected from professor Winthrop’s

There were several small shocks soon after this of November 18.—One in about an hour and a quarter after the first, viz. at 5h. 29'. A second, on November 22, at twenty-seven minutes after eight at night. A third, on December 19, at 10h. P. M. Their violence and duration was small; their course, much like that of the great shock; and their extent, such as to be pretty generally felt through the country. Many others, but very small, were felt in different parts of the Massachusetts and New-Hampshire, for several months after.

In 1757, there was another earthquake; which, tho’ small, was generally felt. I cannot find any printed account of this shock, and, therefore, can only mention some general observations, which I then made of it. It came on July 8, N. S. at about 2h. 20', P. M. I was then in an open field, surrounded with pretty high hills, from the south-west to north-east, in company with another person. The first thing we perceived was a small noise, like that of a rising wind, which seemed to be at a great distance, but swiftly advancing. It was half a minute before there was any shock. This I inferred, not barely from any conjecture I was then able to make, which in a state of surprise must be greatly uncertain, but from this circumstance: after hearing the noise, we had enquired of each other what it could be; and as there was no shake, concluded it was not an earthquake, when immediately the shock came on. The conversation I well remember; and am certain it must have taken

## NOTE.

lecture, and account of it in Phil. Trans. for 1757, art. 1. and from drs. Chauncey’s and Mayhew’s accounts of it.

up half a minute, if not more. The shock itself was not of very great force; but seemed as though some small body was swiftly rolling along under the earth, which gently raised up that part of the surface, that was over it, and then left it as gently to subside. The course of this earthquake appeared, to me, to be from the south-west to the north-east.—The noise and shake seemed very plainly to come on, and go off in that direction. I might, however, be deceived by the reflexion of the sound from the adjacent hills, or from some other cause; for almost every one judged very differently of its course, that it was from north-west to south-east. This was the judgment of several men, who were at work together, in a large open field, where there was nothing to reflect the sound, or mislead the judgment. It is not impossible that both might have been right in their opinion; and this, upon the whole, I am apt to think was the case: that although its general course was from north-west to south-east, yet, in particular places, it left its general course, and run out to any point of the compass, as the subterraneous veins, or channels, might lead it. From the effects of other earthquakes, particularly that of turning and twisting chimnies, &c. it seems as though this had been the case with most of the large earthquakes we have had.

On the 12th of March, 1761, there was also a small earthquake. It began about 2h. 30' in the morning. It was said to have been divided into two shocks, with a small pause between, the last of which was the greatest. The weather was moderate, like that of the preceding day, and a perfect calm rested on the land and water; the horizon all around, being covered with a whitish fog. The duration was supposed to be about half a minute. Hap-

pening in the night, and being too small to awake people in general, nothing can be collected with any certainty as to its course. Its extent however, was considerable; being felt not only in the Massachusetts, but in most of the adjoining states.

The same year, on November 1, about 8h. P. M. there was another earthquake. As usual, this was preceded with a heavy rumbling noise, which increased to a pretty loud report as it came near. There was a considerable interval of time between the roar and the shake. I endeavoured to make some computation of it by this method: just as the shock began to abate, I looked on my watch to note the time. The report I could hear for about half a minute after this. It is probable it was about as long in coming on, which would give half a minute between the noise and shake. The shock itself was of the undulatory kind: not violent, but sufficient to make the doors and windows jar and clatter. Its course was very plainly from north-west to south-east, and it was pretty generally felt thro' the state, and in New-Hampshire.

In the years 1766, 1769, and 1771, there were small earthquakes. Their courses were all, I think, from about north-west to south-east. Their durations not more than twelve or fifteen seconds; and their extent but small. Not being attended with any thing remarkable, it is not necessary to write particular accounts of them.

November 29, 1783, about 10h. 54', P. M. there was another small earthquake in New-England. Its extent was very considerable; being felt in Pennsylvania, New-Jersey, New-York, Connecticut, Rhode-Island, Massachusetts, and New-Hampshire. At Boston, there was but one shock; and that was not violent enough to be generally perceived. At Hartford and Newhaven, in

Connecticut, but one shock was perceived; but it seems to have been more considerable than at Boston. At New York, three shocks were felt, about the hours of nine, eleven, and two the next morning. At Philadelphia, they had a shock about eleven o'clock, and another the next morning, about two. At the first of these, "most of the houses were very sensibly shaken," but the other was not generally felt. Being but small in most places, and happening in the night, the course of this earthquake was not much attended to. The only remark I can find upon this, is in an account from Newhaven; in which it is said, "Its course was nearly from north to south, and it continued about one minute."

*Observations and remarks on the earthquakes of New-England.*

**T**O have a general view of the agreement and disagreement of the phenomena that have attended the earthquakes of New-England, it may be of use to make some general observations on the preceding historical account.

It seems worthy of remark, that all the earthquakes of this country, have been of the same kind. Writers on this subject, have sometimes distinguished earthquakes into two different kinds, according to the different motions of which they have consisted. In some, an horizontal, in others, a perpendicular motion has been chiefly observed. In the one, the earth seemed to move, as it were, from side to side: in the other, its motion seemed to be up and down. Both these motions have been united in the earthquakes of New-England. All, of which we have had any particular account, have come on with an undulatory motion, like that of a wave; which first rises till it comes to its

greatest height, and then subsides; and in subsiding, spreads itself, with an horizontal motion, all around. This has appeared, with the most sensible evidence, to be the case, in all the earthquakes I have ever felt. They have all appeared, to me, to come on, as if a solid body, or a wave of earth, (if the expression may be allowed) was rolling along under the surface of the earth; which first raised that part which was over it, and then left it gradually to subside: the consequence of which was, a strong undulatory motion of the earth; which was immediately succeeded with an universal trembling, or very quick jarring, vibratory motion, as though the earth was struggling to recover its former position.

Another thing observable in the earthquakes of New England is, they have all gone in much the same course. As to two or three of the earthquakes, we have no account of their course: but in all those in which it was determined, there is a very great agreement. They are all described as coming from about north-west, and going off about south-east. As this was the case with all whose direction was observed, we may rationally conclude, that they all proceeded in pretty much the same general track; in a path from about north-west to south-east, though with many small deviations and irregularities, in particular places. This, if I do not mistake, has not been generally the case in the earthquakes of other places. The great earthquakes which have spread desolation in Sicily, Peru, and Jamaica, instead of proceeding in any regular course, are described rather as instantaneous blasts, which struck dreadfully upwards,—not proceeding in any certain track, from one country to another; but such as burst and rent a

large circle of earth all around. But with us, they have all proceeded in a different manner; and in a manner apparently regular;—fiercely driving along, as it were, in the same path, as though a passage had been open for, or by them, from one country to another; in some places coming more near, and in others, running more remote from the surface of the earth. And the distance to which some, and probably several have run in the same course, has been greatly amazing;—nineteen hundred miles at least, and how much more we know not.

From the last remark it seems probable, that the earthquakes of this country, have had their origin at some considerable distance to the north-west of New England, and possibly at much the same place. Whatever might be the case with those small shocks that have had but a small extent, or wheresoever they might begin, the larger ones have all been observed to come from the north-west; and they were of much the same violence at the most north-westerly settlements, as at other places in the country. The place, therefore, where they have had their origin, must have been in some part of the unknown lands which lie to the north-west of New England; and probably at some considerable distance from any of the European settlements; as there has been no account from any of them, in which it had not the same direction, coming on from the north-west. Whether the great shocks have all originated at the same place, we have no way to determine; but from the agreement of their courses and motions, it seems not an improbable supposition.

There seems to have been a particular part of the continent of North-America, which has been the seat of the earthquakes of New England,

and to which they have always been confined. To the south-west, they have several times reached as far as Maryland; but never so far as Virginia or Carolina. To the north-east, they have been bounded by Nova-Scotia; having never been felt much farther than Halifax. From the unknown lands, at the north-west, they have gone off south-east into the Atlantic: their extent this way, being greater than we are able to trace on either point of the compass. The province of Massachusetts-Bay, or rather, that part of New England which is about the latitude  $43^{\circ}$  north, where the river Merrimack empties itself into the Atlantic, has generally been the centre or place of their greatest violence. If from this place, a line be drawn north-west, it will pretty well represent the central course of the earthquakes of this country: and from this line they have extended about four hundred miles to the south-west and north-east. It is not meant to be very particular, but only general, as to these boundaries.—And the whole country, within these limits, has been repeatedly shaken—most violently about the middle, and least so towards the south-west and north-east boundaries. As far as can be gathered from the accounts, it seems probable, that most of the great shocks have reached to much the same places: the small ones, indeed, have not had such an extent; being felt only in different provinces and towns. But all the earthquakes, within the above-mentioned limits, have come from the same point, and ran in the same course: the great ones reaching to much the same extent, as though there was something to direct their motions the same way, and confine them to the same limits.

With what velocity these earthquakes moved, it is not easy to determine. In many accounts of earth-



quakes, their motion has been said to be instantaneous, like that of the electrical shock. The reverse has been the case in the earthquakes of New-England. Instead of being instantaneous, their motion has never been very swift. To compute, indeed, with accuracy, with what velocity any of them moved, we have no sufficient *data*. Had the times at which any of them begun, been carefully noted at places whose distances were known, it might have opened the way to some very curious conclusions. But all the accounts, excepting one of professor Winthrop, are too general to form any certain inferences of this kind. There is, however, one article in the accounts of the earthquakes of 1727, 1755, 1757, and 1761, from whence we may conclude, that the velocity of their motion, was considerably less than that of sound. Most of the accounts of the earthquakes of 1727 and 1755, agree, that the roar was heard at least half a minute before the shake began. The sound, therefore, that was occasioned by the approach of the earthquake, preceded the shock with a motion considerably swifter than that of the earthquake itself. Now, sound moves about thirteen miles in a minute; and the motion of this was considerably swifter than the motion of the earthquake. In the earthquakes of 1757 and 1761, the sound was also heard half a minute before the shock was felt: and as the report was much less, and therefore could not reach so far as in the larger shocks, the inference will be, that these small shocks moved with a velocity considerably less than the larger one. And, indeed, the supposition seems not improbable, that the velocity with which an earthquake moves, should bear some proportion to its violence—to the strength and force of those causes, by whose operation it is produced.

Whether there does not seem some evidence that this has been the case with us, the reader will judge for himself, from what has been observed above. If this is the case, as I believe it is, future observations may determine it with much more certainty and precision, than any that have yet been made.

But although we are able to discern some appearances of agreement and similitude in those phenomena that have been mentioned, we cannot discern any in the times in which these earthquakes have happened. From their having all proceeded in the same course, one might be led to suspect, whether their causes, whatever they are, operating in the same direction, would not require nearly the same intervals of time, to gather sufficient force to produce the same effects. But nothing of this nature is apparent. The intervals of time, at which they have happened, have been very different, and without any apparent regularity. Not to mention the smaller shocks, there have been five which have been distinguished by their being much larger than the rest: those, I mean, of 1638, 1658, 1663, 1727, and 1755. Between the two former of these, there was an interval of twenty-eight years.—Between the two next, an interval of five years: then one of sixty-four, and between the two last, of twenty years. At a medium, this will make one in about twenty-seven years. But in these different intervals, there is no apparent order, regularity, or proportion, in the times of their happening. Neither does there seem to be any proportion between the intervals of time, and the violence of the shock. One would be apt to imagine, that the longer the causes were gathering strength, the greater would be the violence of the earthquake when it came: and yet that of 1755, was greater than that of 1727, though

the interval of time had not been half so long. It is to be observed, however, that as our accounts of the earthquakes are but imperfect, as to their number, and much more so as to the degree of their violence, all our reasonings, upon this article, must be very uncertain. Nor could we, without very accurate accounts of the time and violence of the earthquakes—the smaller ones as well as the greater—state any proportion between the times and the shocks, supposing such proportions to exist. But if there be any such proportions, or any order and regularity, in their periods, it is not apparent; indeed rather the contrary, from all the accounts I have been able to collect.

It is also worthy of remark, that these earthquakes do not seem to have any connexion with any thing that falls under our observation. It has been suspected, by those who account for the origin of earthquakes on the principles of electricity, and by many others, that there is some connexion between the state of the weather, or rather atmosphere, and the happening of an earthquake. As our knowledge of this subject is so imperfect, it may not be amiss to note every thing of this kind. And it is observable, that the earthquakes have generally happened in calm, serene, and pleasant weather. Some of the accounts are very imperfect in this respect: yet, in general, they seem to agree pretty much in this particular. But though it has generally been the case, that the earthquakes have come on in fair and pleasant weather, it has not been universally so. In the earthquake, which happened November 22, 1755, after the great shock on the 18th, the weather was not clear and fair, but dull, and cloudy, and attended with small showers, and a brisk gale at south-west. And in

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March, 1771, there was a small shock, when, instead of the weather being fair, there was a heavy storm of snow. But perhaps it is of no great consequence to mention this. It has been more common for writers on this subject, to attempt to find some preceding signs, or forerunners, of these events. And in this respect, fear and superstition have been abundantly fruitful. Philosophy has nothing to do with the many idle reports of this kind, which have prevailed among the vulgar. But among the many things which have been supposed to exist, there is one which deserves our notice, as having probably a real foundation in nature. Ancient and modern writers have supposed, that it might in some cases be a prelude to an earthquake, when the water in deep pits, wells, caverns, springs, &c. is thrown into uncommon motions, disturbed, altered and changed, as to its course, kind, or quality. It is rational to suppose, that such events may, in some cases, proceed from those causes, which, in a little time, have burst out, and rent the adjacent country. Some curious observations of this kind were mentioned by messieurs Dudley and Allin, as happening a few days before the earthquake of 1727: and something of the same kind was observed previous to the earthquake of 1755. As these accounts have been mentioned\*, it is unnecessary to repeat them here. I am far from supposing, that any certain prediction of earthquakes can be generally made from such observations; as such events may, and no doubt do, happen, without being followed by any shocks; and earthquakes often take place without any such events. But at the same time it can hardly be doubted that the

NOTE.

\* Vide p. 293 and 296.

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alterations observed in the water of these wells, were owing to the operation of the same causes, which in a few days burst forth with such violence as to shake all New England. With regard to the ill effects, which have succeeded earthquakes in some countries, it is well known there have been many and fearful accounts. In some places they are said to have been followed by great mortality, pestilential disorders, and the most raging sickness. Nor is it improbable that the air should be infected with noxious effluvia, from the vapours which were before confined, and perhaps corrupted. It seems credible, that something of this nature has been the cause, and probably, the consequence of earthquakes, in some places. Many of these reports, indeed, seem to be much like what has been said of the effects of comets, meteors, and the conjunctions of the planets. But at the same time it seems probable, both from ancient and modern accounts, that in some places, pestilential disorders have, in fact, and probably as the consequence, succeeded great earthquakes. Nothing of this nature has been the case in New England. It is, however, highly probable from the rev. mr. Lowel's observation\*, that some very noxious vapour or effluvia, attended the eruption of the earthquake of 1727: but no bad effects, no pestilential distempers, no sweeping sickness, or uncommon disorder, or mortality, have been observed to succeed any of the earthquakes of this country; no otherwise, at least, than what has been common at other times.

NOTE.

\* Vide p. 295.

(Conjectures on the causes of these earthquakes will appear in our next.)

*Theory of water-spouts, by Andrew Oliver, esquire, of Salem, in the state of Massachusetts.*

MY last essay† contained a theory of lightning and thunder storms, which was suggested to my mind upon the perusal of doctor Priestley's history of electricity. In the investigation of which theory, while I was endeavouring to account for the exhibitions of those phenomena upon the ocean, at great distances from the land, some thoughts naturally occurred, relative to the water-spout—a phenomenon as curious perhaps as any one in nature, and which can rarely take place but at sea.

Water-spouts have by some been supposed to be merely electrical in their origin; particularly by signior Beccaria, (Priestley's hist. of elect. p. 355, 356) who seems to have supported his hypothesis by some experiments. But as several successive phenomena are necessary to constitute a complete water-spout, (some of which undoubtedly depend upon the electric principle) if we attend to the most authentic descriptions of these spouts, through their various stages, from their first exhibition to their total dissipation, we shall be obliged to have recourse to some other principle, in order to obtain a complete solution. I shall, therefore, first describe these phenomena according to the best observations I have met with; and then, endeavour to give a general philosophical solution of them. But I must here observe, that the following descriptions are all taken from the accounts of mariners, who are indeed the only persons who have opportunities of viewing them; but, unfortunately for the cause of philosophy, do not usually observe

NOTE.

† See page 226.



them with that circumstantial accuracy, respecting the previous and subsequent states of the atmosphere, which may be necessary to found a complete physical solution upon, nor with any view to that end; as it is foreign to their main business, trade and commerce. But as such accounts are the best I have met with even in the transactions of the royal society down to 1744, lower than which I have not seen them; from such I shall endeavour to draw the best conclusion which the nature of the evidence will justify.

The most intelligent and beautiful account of a water spout, that I ever met with, is in the abridgment of the Phil. Trans. vol. viii, by Martin, pa. 655. as it was observed by Mr. Joseph Harris, May 21, 1732, about sunset, lat.  $32^{\circ} 30' N.$  long.  $9^{\circ} E.$  from Cape Florida: which I shall here transcribe.

"When first we saw the spout  
 "it was whole and entire, and  
 "much of the shape and proportion  
 "of a speaking trumpet; the small  
 "end being downwards, and reaching  
 "to the sea, and the big end  
 "terminated in a black, thick cloud.  
 "The spout itself was very black,  
 "and the more so, the higher up.  
 "It seemed to be exactly perpendicular to the horizon, and its  
 "sides perfectly smooth, without  
 "the least ruggedness. Where it  
 "fell, the spray of the sea rose to a  
 "considerable height, which made  
 "somewhat the appearance of a great  
 "smoke. From the first time we  
 "saw it, it continued whole about  
 "a minute—and, till it was quite dissipated, about three minutes. It  
 "began to waste from below, and  
 "so gradually up, while the upper  
 "part remained entire, without any  
 "visible alteration, till at last it ended in the black cloud above. Upon  
 "which there seemed to fall a  
 "very heavy rain in the neighbour-

"hood. There was but little wind,  
 "and the sky elsewhere was pretty  
 "serene."

In other accounts, contained in the philosophical transactions, these phenomena are described as having the appearance of a sword pointing downwards, sometimes perpendicularly, sometimes obliquely, towards a column of water or froth, which seems to rise out of the sea to meet it, attended with a violent ebullition or perturbation at the surface. Again, in others the appearance is compared to smoke ascending visibly as through the funnel of a chimney, either directly, or with a spiral motion, which, according to the fancies of some, resembles the ascent of water in the screw of Archimedes; by supposing something similar to which in the atmosphere, they have endeavoured to account for the rise of the water from the sea in a water-spout. To which I would add, that, from the relations of some persons who use the sea, with whom I have conversed upon the subject, I find that it is no uncommon thing, during a calm below, and a serene sky above, to observe at the distance of two or three leagues, a small cloud hovering in the air, from whence the commencing spout seems to dart downward to the sea, upon which the usual phenomena take place in their order. I have also been informed (and to information I must trust, having never been at sea) that it is common, during these appearances, for ships to sail, even within hail of each other, with different winds; and within the limits of the same visible horizon, with contrary winds: and lastly, that the rise and progress of this phenomenon is sometimes so rapid, that, even in a serene sky, a few minutes will be sufficient to generate a cloud from one of these spouts, and to discharge from thence a heavy shower of rain.

Before I proceed to attempt a philosophical solution of these curious productions of nature, in which the two principal fluids of our globe, air and water, are largely concerned; it may be necessary to make some observations upon the nature and properties of fluids in general, as such.

1. No fluid can be at rest unless every part of it respectively be acted upon by an equal force or pressure in every direction: till then its several parts will necessarily recede from the greater pressure towards the lesser; nor can an equilibrium take place.

2. If two or more fluids of different natures and densities come together, such as quicksilver, water, oil, and air, which will not mix; they will take their places according to their specific gravities, the most dense remaining at the bottom.

3. If a vessel be filled with either of these fluids, and a denser one be admitted into it, the latter will expel and take place of the former.

4. If an empty cylindrical space be surrounded on all sides by a fluid, which is excluded by some resisting surface terminating that space, the fluid will necessarily, upon the sudden removal of the obstacle, immediately flow in from every side towards the centre of the void: and as it flows inwards, the parts, next surrounding this space, will thereby be crowded together, and force each other upwards, till at length, when closed, the fluid will, by its ascent, have formed a column directly over the middle of the space, to a height proportionable to the united force of the converging currents. This must be the case with every fluid thus flowing into a vacuum; and in a lesser degree, when a denser fluid, in a similar situation, supplants a rarer: and the greater the difference of the densities of the two fluids might be, the more conspicuous would be the effect.

This reasoning may be illustrated, and the conclusions exemplified, by facts which must have occurred to the observation of every one. Do we not observe, when a shower of hail, or rain in large drops, falls upon the surface of stagnant water, that the water rises, wherever they fall, like so many little inverted icicles, which again instantly subside; the cause of which undoubtedly is, that these drops, or hail stones, descending from a great height in the atmosphere, acquire severally such a momentum in their fall, as to plunge through the surface to a proportional depth, driving the superficial water back on every side, and leaving a momentary vacuum behind them; not indeed a pure vacuum, but such relative to the surrounding fluid, which immediately returns to fill up the chasm, and as it closes, gathens and rises in the little columns above described. When a large round stone, or any other heavy body plunges, the effect is proportionably greater.

5. Let us, for argument's sake, suppose the atmosphere over any certain circular tract of ocean, of some miles in diameter, to be for a moment annihilated, the space it occupied before being reduced to a pure vacuum—the surrounding atmosphere, when at liberty, would rush in from every quarter towards the centre, where the converging currents would immensely crowd each other, and force up a vast quantity of air through a very narrow funnel, contracted below by the united pressure of those currents from all sides, into the higher regions; which funnel, as the density of the air lessens according to its height, and the surrounding pressure which contracts it must decrease nearly in the same proportion, would more and more diverge and expand, the higher it rose above the surface of the sea. This

would be attended with a most furious blast of wind up to, and far above the top of the atmosphere. In like manner.

6. If instead of a pure vacuum, or a total annihilation of such part of the atmosphere, we suppose the same to become, by any means whatever, specifically lighter than the surrounding regions, the effect would be the same as above, in kind, though not in degree; the denser air flowing in, but with less rapidity, from all quarters without, expelling the lighter, and supplying its place, as in article four; upon which also a large quantity of this confluent air, for the same reason, would be driven up with violence through a like narrow vent, yet not with the same impetuosity nor to the same height, as if forced through a funnel into a pure vacuum.

That the atmosphere, over large tracts of sea or land, may thus become specifically lighter than that over the surrounding regions, will be evident, if we consider, 1. That heat has a natural tendency to rarefy and expand the air upon which it acts. 2. That the atmosphere, over our heads, does not consist of mere elementary air, but is an universal receptacle of all the heterogeneous vapours and effluvia which are perpetually exhaling from every substance which exists upon the face of the earth, whether animal, vegetable, or mineral. 3. That, in the casual disposition of these vapours and effluvia in the atmosphere, the air, which is, of itself, naturally enough disposed to acquire heat from the passage of the sun's rays through it, may become more disposed to imbibe and retain that heat, in one region, than in another in its neighbourhood; which, from the intervention of clouds, or from its purity and freedom from those fumes and vapours with which the former is charged, may, in a

great degree, retain its natural coolness and density, while the other becomes heated, rarefied, and expanded, and is thereby rendered specifically lighter.

That these different affections of the atmosphere actually take place, and dispose the air, at one time and in one place, even in the same seasons of the year, to imbibe and retain the heat excited by the sun's rays, more than at another, is not a matter of mere conjecture; but, whatever the cause may be, is notorious to all persons of observation.

These things being premised, I beg leave to observe further, that some parts of the ocean are liable to long and extensive calms, during the continuance of which the heat is scarcely tolerable. Where these take place, the air must necessarily undergo proportional changes in its density and electric capacity; and, when heated and rarefied to some certain degree, will give way, as observed above, to the denser air, now proportionably disposed to flow in from all quarters without the limits of the calm.

When once this stagnated air, especially if of any great extent, becomes specifically lighter than the surrounding air, and sufficiently rare to be supplanted by it—the latter will, of course, set in from every side in horizontal currents; which will flow, either directly or obliquely, towards one point, in or near the centre of the becalmed region aforesaid: the obliquities of which currents will depend upon the directions and velocities of the winds, or currents of air, which might previously have taken place in the surrounding regions. When these currents arrive

## NOTE.

See theory of lightning, &c. page 230.

at the centre of their mutual convergency, all the stagnated and rarefied air, which was before incumbent upon the calm surface of the sea, will have been expelled and forced higher up into the atmosphere; upon which these currents, by their mutual concourse in one place, will excessively crowd each other, as observed above, wherever it happens, driving the central air upwards with a violent blast; which, should the currents set in obliquely, and so converge with a spiral motion, towards the centre of their mutual concourse, would ascend as through the screw of Archimedes, or the worm of a cork screw, to both of which navigators have likened these spouts: otherwise, it would rise through a strait, narrow funnel, as in articles five and six above; which, if filled with any opaque matter, would become visible; and, at a distance, would resemble a speaking trumpet, with the small end downwards, in which form the water-spout frequently appears. In the former cases a whirlwind round about the centre, would undoubtedly be the consequence: and in either, a water-spout would probably be produced\*. For the pressure of the atmosphere is taken off from that part of the surface of the sea, which is directly under the funnel through which the air is driven up: whereas the surrounding surface is at the same time uncommonly pressed, from the confluence of the currents from all quarters†, whereby the water must

## NOTE.

\* We shall in the sequel see abundant reason to conclude with doctor Franklin and others, that water-spouts at sea, and whirlwinds on the land, (some species of them at least) are produced by the same causes.

† In the abridgment of the philosophical transactions, vol. II. (by Eames

necessarily be forced up to a certain height proportional to the surrounding pressure, through the same funnel with the air itself: nor is this all; for in their ascent, the air and water become confusedly mixed together, whereby the latter is broken and attenuated into the finest globules and particles, as when one forcibly blows water out of his mouth: and from this mixture of the two fluids doubtless arises that opacity which renders the spout visible.

This opaque column of air and water, together with the passage through which it ascends, will expand as it rises, in proportion as the compressure diminishes; and, to spectators at too great a distance to discern the narrow stem next the water, will resemble a sword, or acute cone pointing downwards from a small cloud; to which they are frequently likened. But that they do at the same time communicate with the sea is evident from the perturbation of the water directly under them, which sometimes boils and foams at a great rate. This is usually the first appearance of one of these spouts, the duration of which is either longer or shorter, and the subsequent phenomena more or less considerable, according to the extent of the cause, and the mode of its operation.

The water being thus raised from

## NOTE.

and Martin) page 61, at the bottom, it appears, that the meeting of two contrary currents of air or contrary winds, raises the mercury in the barometer near the place where it happens, which indicates an increase of the pressure of the atmosphere upon the surface of the earth or sea. How much more then must that pressure be increased, from a general confluence of the air from all quarters towards one spot?

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the sea, and forced irresistibly upwards in the finest globules by the protruding air, arrives at length at the warm electrical air\* lately expelled, which was previously incumbent upon the calm surface beneath; the electric attraction of which probably assists the further ascent of these particles after the first fury of the blast is spent. There it undergoes another operation, being converted into vapour, whereby it is wholly discharged of the marine salts it carried up with it; which are now left to drift for themselves, together with innumerable other heterogeneous corpuscles, which successively float in the atmosphere, and which, in due time, become severally subservient to many wise purposes in the economy of nature. These vapours will then be greedily attached by the craving particles of this air, now deficient of its natural quantity of electric matter†, and form a dense cloud, in like manner as thunder clouds are formed over the land—but with much greater expedition, as the supply of vapours is more sudden. This cloud will then be ready, in a short time, to discharge a shower of fresh water upon the sea, from whence it rose, and may be attended with thunder and lightning, or not, as the air, in which the cloud was formed, was more or less electrical, or the cloud extensive.

## NOTES.

\* See theory of lightning, &c. page 236.

† The water, carried up in one of these spouts, is undoubtedly salt, when it first rises from the sea, as it ascends in great quantities, and in a very dense column: but it is always fresh when it descends again in a shower: it must therefore, in the mean time have gone through a complete natural distillation.

‡ Theory of lightning, &c. page 237.

A previous calm may not be necessary to the production of these phenomena: and indeed they frequently happen without one: but, upon the same principle, if it be calmer where they are produced, or the state of the atmosphere there be such as to dispose it to acquire and retain the heat acquired from the sun's rays, more than in the surrounding regions, which, as we have seen above, may be the case, the effects may be the same in kind, though perhaps not in degree; the most perfect water-spouts probably rising from whence there has previously been a dead calm, or nearly, such for the foregoing reasons.

If there be any wind at the time of the phenomena, the aerial funnel, through which the water ascends, instead of being perpendicular to the horizon, as it would be in a calm, might incline more or less to it, in proportion to the strength or weakness of the prevailing current of air: or, instead of continuing in one spot, it might have a progressive motion over the surface of the sea, in the direction of the general current; both of which circumstances frequently take place. In either case, it is natural to suppose, that both air and water would ascend spirally, as through the worm of a screw, every current, which sets in towards the centre, receiving an oblique bias from the prevailing current.

It sometimes happens, that after the subsiding of a spout, it is succeeded by a second, and that by a third, either in the same place or at no great distance from it. But this also is analogous to what we observe upon the plunging of heavy bodies out of air into water. For, after the first subsiding of the small column of water, which is occasioned by it, and is above resembled to an icicle, the water again rises and subsides as at first, though not in the same degree; as may be concluded from those

fainter concentric circles which expand from the same centre, after the subsidence of the first column. The same thing which here takes place in water, may also take place in air, under similar circumstances.

Since writing the foregoing, while I was endeavouring to contrive some experiment to illustrate the subject, a very simple one was suggested to my mind, the success of which I think demonstrates the truth of the hypothesis introduced above, to account for the first ascent of the water in the spout; the event being precisely the same as was expected before hand, and as ought to have taken place, upon the principles above advanced.

#### EXPERIMENT.

In a stiff paper card, I made a hole just big enough to insert a goose quill, so as that it might be fixed perpendicularly to the plane of the card: after cutting the quill off square at both ends, and fixing it, I laid the card upon the mouth of a wine glass, filled with water, to within one fifth or sixth part of an inch from the lower orifice of the quill: then applying my mouth to the upper part, I drew out the air in the quill by a strong suction; and in one draught of my breath drew in about a spoonful of the water: this by stronger suctions I was able to repeat again and again, the quill remaining as before. The water, as I expected, did not ascend to the mouth in a stream, as it would have done, had the quill reached below the surface; but broken and confusedly mixed with the air which ascended with it: as is above supposed to be the case in the ascent of water in a spout at sea.

In this experiment, the suction occasioned a vacuum, or at least a great rarefaction of the air, within and directly under the quill: the surrounding air of course flowed in from every

quarter to supply it, rushing up into the quill, and through it to the mouth: the pressure of the atmosphere being thereby taken off from the surface of the water immediately under the orifice, while the pressure upon the surrounding surface remained, and was probably increased, the water was forced up, together with the air as above, notwithstanding the quill had no manner of communication with the water. If the suction be made very strong, and the quill be fixed at the distance of a quarter of an inch or more from the water, a considerable agitation and ebullition takes place in the water under it, similar to that observed in most natural water-spouts, and the passage of the water, from the surface to the quill, becomes very visible.

It was hinted, in the preceding note, that water-spouts at sea, and whirlwinds at land—some species of them at least—arise from the same cause, how different soever their apparent effects may be. This I think is made sufficiently evident from the observations of a couple of land spouts at Hatfield, in Yorkshire, by Mr. Abraham de la Pryme\*, whose accounts of them I shall here transcribe, as the transactions of the royal society are in the hands of but few among us, and the facts related by him, tend strongly to confirm the present theory, however his conclusions from them may differ from it.

"On the 15th of August, 1687, appeared a spout in the air, at Hatfield, in Yorkshire: it was about a mile off, coming directly to the place where I was. I took my prospective glasses to observe it as well as I could.

#### NOTE.

\* Abridgment of philosophical transactions, vol. IV. by Jones, page 106, 107.

"The season was very dry, the weather extremely hot, and the air very cloudy; the wind aloft, and pretty strong, and (which is remarkable) blowing out of several quarters at the same time, and filling the air hereabouts with mighty thick and black clouds, layer upon layer; the wind thus blowing soon created a great vortex, gyration and whirling among the clouds; the centre of which every now and then dropt down in the shape of a thick, long, black pipe, commonly called a spout; in which I could distinctly view a motion like that of a screw, continually drawing upwards, and screwing up (as it were) whatever it touched. In its progress, it moved slowly over a hedge-row and grove of young trees, which it made to bend like hazle wands, in a circular motion; then going forward to a great barn, it twitched off in a minute all the thatch, and filled the whole air therewith. Coming to a very great oak tree, it made it bend like the foregoing trees, and broke off one of the greatest and strongest branches, that would not yield to its fury, and twisting it about, flung it to a very considerable distance off; then coming to the place where I stood, within three hundred yards of me, I beheld this odd phenomenon, and found that it proceeded from nothing but a gyration of the clouds by contrary winds meeting in a point or centre; and where the greatest condensation and gravitation was, falling down into a pipe or great tube (something like the *coclea Archimedis*) and what in its working or whirling motion, either sucks up water, or destroys ships, &c. Having travelled about a quarter of a mile farther, it dissolved by the prevalency of the wind that came out of the east."

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The account of the other is as follows, viz. "I have seen another spout in the same place, which very much confirms me in my notion of the origin and nature of them.—The 21st of June, 1702, was pretty warm; on the afternoon of which day, about two of the clock, no wind stirring below, though it was somewhat great in the air, the clouds began to be mightily agitated and driven together; whereupon they became very black, and were (most visibly) hurried round, from whence proceeded a most audible whirling noise, like that commonly heard in a mill. After a while, a long tube or spout came down from the centre of the congregated clouds, in which was a swift spiral motion, like that of a screw, or the *coclea Archimedis*, when it is in motion, by which spiral nature and swift turning, water ascends up into the one as well as into the other. It travelled slowly from west to north-east, broke down a great oak tree or two, frightened some out of the fields, and made others lie down flat upon their bellies, to save being whirled about and killed by it, as they saw many jackdaws to be, that were suddenly caught up, carried out of sight, and then cast a great way amongst the corn; at last it passed over the town of Hatfield, to the great terror of the inhabitants, filling the whole air with the thatch that it plucked off from some of the houses; then touching upon a corner of the church, it tore up several sheets of lead, and rolled them strangely together; soon after which it dissolved and vanished without doing any further mischief.

"By all the observations that I could make of this, and the former, I found that had they been at sea, and joined to the surface there-

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" of, they would have carried a  
 " vast quantity of water up into the  
 " clouds, and the tubes would then  
 " have become much more strong  
 " and opaque than they were, and  
 " have continued much longer.

" It is commonly said, that at sea  
 " the water collects and bubbles  
 " up a foot or two high under these  
 " spouts, before that they be joined :  
 " but the mistake lies in the pelluci-  
 " dity and fineness of those pipes,  
 " which do most certainly touch the  
 " surface of the sea before that any  
 " considerable motion be made in it,  
 " and that, when the pipe begins to  
 " fill with water, it then becomes  
 " opaque and visible."

I shall here make a remark or two  
 upon the above-cited author's mode  
 of expression in the foregoing ac-  
 counts, which is evidently adapted  
 to a preconceived idea of the *coclea*  
*Archimedis*, by supposing something  
 similar to which, as taking place in  
 our atmosphere, he is not alone in  
 endeavouring to account for these  
 phenomena. In conformity to this  
 idea, he speaks of the spout as draw-  
 ing upwards, and screwing up what-  
 ever it touched; and supposes that  
 by its spiral motion and swift turn-  
 ing, water ascends in it as in the  
 screw of *Archimedes*. But this hy-  
 pothesis, however specious, has been  
 long since exploded as unphiloso-  
 phical.

Mr. de la Pryme mentions the  
 appearance of a long black pipe,  
 which now and then dropped down  
 from the centre of the gyrating  
 clouds; in which pipe he distinctly  
 viewed a motion like that of a screw;  
 and as such he seems to have supposed  
 it acted, viz. either in the manner  
 of a cork-screw upon solids, or as  
 the *coclea Archimedis* upon fluids,  
 drawing them up into the atmo-  
 sphere. But as he himself afterwards,  
 when applying his observations to a  
 spout at sea, very justly concludes

that the pellucidity and fineness of  
 these pipes over the water, render  
 them invisible below, " notwith-  
 " standing (as he conceives) that the  
 " pipes do most certainly touch the  
 " surface of the sea before any consi-  
 " derable motion be made in it, and  
 " that they are then rendered opaque  
 " and visible when they begin to fill  
 " with water;" might he not with  
 equal reason have supposed that those  
 aerial pipes, which he observed over  
 the land, were also continued from  
 the clouds down to the surface of  
 the earth, as from their effects below  
 one would naturally conclude they  
 were, and that they were pellucid  
 and invisible so long as they contained  
 nothing but air; but that, " every  
 " now and then," when they met  
 with any substances which might  
 perchance pass within the compass  
 of their gyration, or which they could  
 easily carry up; such as detached  
 parts of the broken clouds; water from  
 stagnant ponds, brooks and rivers,  
 hay, stubble, thatch, dust, &c. they  
 then became opaque and visible, and  
 that they appeared to dart downward  
 by a kind of optical deception; so  
 upon the foregoing principles, the  
 pipes of air must necessarily be  
 broadest above, as we have already  
 seen, and terminate in a narrow streak  
 below, the broadest part being, at a  
 distance, first visible, and the flank  
 seemingly tapering downwards to a  
 point. It is, however, certain, from  
 the effects of the abovementioned  
 spouts, that, whatever the appear-  
 ances were aloft, they were all occa-  
 sioned by the rushing of the air up-  
 wards through a narrow passage, that  
 was contracted below, by the con-  
 course and pressure of the opposite  
 currents of that fluid, and dilated  
 above from the diminution of that  
 pressure.

I have reserved for this place an  
 account of a curious spout which  
 made its appearance anno 1694, not

at sea, but in the harbour of Topsham\*, and at low water, which passed with a slow progressive motion over both land and water; acting as a complete water spout over the latter, and as a whirlwind upon the former: for when it passed over the channel of the river, it threw up the water in a dense stream, as if it had been impelled through the hose of a fire engine, and the stream accordingly ended in a thick mist, resembling a dark smoke; the surface of the water, round about the spot from whence it rose, being greatly agitated, as is usual in those phenomena. In its course, it met with the hull of a new ship, of about one hundred tons, which was much shaken by it, but received no hurt. In passing over the flats, it took hold of a boat which was fastened to an anchor, twirled both boat and anchor to some height in the air, and rent the boat "from the head to the keel." When it reached the shore, it lifted up another boat about six feet from the ground, letting it fall again upside down; and had a strange effect upon a parcel of planks, some of which were raised up perpendicularly, and stood upon their ends while it passed along. In its further progress, it was attended with the usual effects of a whirlwind, such as stripping off, not only thatch, but sheets of lead from the tops of houses, and tearing off the limbs of trees. This account may tend to confirm the theory here offered, as it proves to a demonstration, that the water spout therein described, was occasioned by a previous whirlwind in the atmosphere; which whirlwind was also occasioned by the rushing of a large quantity of air upwards, from

all quarters near the surface of the earth, through a very contracted aerial passage, towards the top of the atmosphere. The narrowness of the passage, as determinable from the effects observed in its progress, shews it to have been compressed upon all sides by a general conflux of opposite currents of air; as the rushing of the air through it with such violence from beneath, does, that the density of the fluid, and the compressive force of the currents, were greatest there. The ascending air carried up the water with it through the same passage; not by any mechanical operation upon it, like the action of a screw of any kind; but, merely, by taking off the pressure of the atmosphere from the surface of the water directly under it; whence the water must necessarily ascend, as in any common hydraulic machine; and that with a force proportional to the pressure of the atmosphere upon the surrounding surface, now greatly increased by the confluence of those currents.

Before I close this subject, I shall just mention, without making any remarks, the effects which a whirlwind had amongst a number of shocks of corn at Warrington, in Northamptonshire, August the first, 1694: out of which from eighty to a hundred shocks were carried up into the air, a great part of them out of sight. These, when the fury of the blast was spent, fell down again at the distance of some miles from their own field. The account of this whirlwind immediately precedes the article last quoted from the philosophical transactions. Should the foregoing theory be adjudged tenable, it will render very credible those strange accounts which we have sometimes had, of its raining tadpoles and frogs, which have been found upon the tops of houses after a shower; and even small fishes, a shower of which fell at Cranstead,

## NOTE.

\* Lowthrop's Abridgm. Phil. Transf. vol. II. page 104.

near Wrotham in Kent, anno 1696, on the Wednesday before easter (Lowthorp's abridgment of philosophical transactions, vol. II. page 144.) For should one of those aerial pipes pass over a frog pond, or the shallow parts of a fish pond, the same natural cause, which in a spout at sea, would carry up the water from the ocean, would also carry up the water from the ponds aforesaid, together with the contents; whether tadpoles, frogs or fishes. These must descend again somewhere; and wherever they fell, a shower of fishes, frogs, or tadpoles, would be the consequence.



*A sketch of the climate, water, and soil in South Carolina, by Lionel Chalmer, M.D. of Charleston, South Carolina; written anno 1776.*

THE province of South Carolina comprehends that extent of territory, which lies between the 35th and 31st degree 45 minutes of north latitude; stretching along the Atlantic ocean, north east by north, and south west by south, nearly.

The coast of this country is so low and fiat, that it cannot be seen at the distance of more than seven leagues: but, about fifty miles from the shore, the land becomes more unequal, and consists of spacious levels, interspersed with easy risings; which, gradually advancing in height towards the west, terminate in a range of lofty mountains, that form, as it were, a chain which runs throughout the continent of North America, at the distance of about three hundred miles from the sea coast.

From the east side of these mountains, many rivers arise, and run in very winding courses, to discharge themselves into the ocean: and as the waters of all the adjacent lands

fall into them, these rivers are liable to excessive inundations; swelling, sometimes, more than twenty feet in perpendicular height, in the short space of twelve hours; particularly in those places where the channels are narrow, and the banks sufficiently high to confine the waters. But where the land is lower, the waters spread themselves many miles beyond their ordinary limits; whereby cattle, and all other land animals, that cannot reach the high grounds, are destroyed; and thus the low lands may continue deluged for many weeks. These land floods are owing either to the melting of snow in the mountains, or the falling of heavy rains in the interior parts of the country; and they sometimes happen, both in the spring and autumn, but most frequently in the latter season: and some years the rivers do not swell at all; or this may be in so small a degree, as not to do any damage. When such inundations happen in the spring, the planters cannot sow their grain; and in the autumn, the produce of their lands is either swept away by the stream, or so rotted, that little or nothing can be reaped for that year. However, so prolific are those lands, that if one crop is lost out of three, the planters are sufficiently recompensed, so great is the increase, which is yielded by those places that had thus been repeatedly overflowed, from the vast depth of fine rich mould, that has been deposited on them in a long course of time; so that their fertility is inexhaustible.

Some gentlemen, who own lands of this sort, have assured me, that they can thrust a reed, twenty feet long, quite down; the whole of which depth consists of a rich mellow earth. In order to prepare such lands for planting, dams or banks of earth are made, to prevent the waters from overflowing them; by which

means the surface soon becomes dry and fit for cultivation, with whatever grain they choose—if it be with rice, cross dams also are made throughout the field, so as to inclose one or more acres within each square; and at the bottoms of these banks, hollow trunks of wood are placed, having a valve at each end, by which means the spring tides (being fresh water) can either be let in or kept out at pleasure, as well as retained on the whole or any part of the field when it is admitted, and the rice requires it; for this is properly a water plant; at least when of a proper age, it thrives best in water.—Besides, another great advantage arises from this manner of overflowing those fields; which is, that thereby not only most sorts of grass and weeds are destroyed; but various insects also, which are pernicious to the young rice, are likewise drowned thereby. On the other hand, this preventive of the above inconveniencies, is often productive of another equally mischievous; for such multitudes of craw fishes breed in the water, that amazing quantities of rice are cut down by them—nor do the plants that have thus been cut off, ever send out new shoots from their roots: so that it is not uncommon to see the surface of the water covered with young rice that has been so destroyed. It is true, that to prepare a field, perhaps of several hundred acres, by making so many dams, is a work of much time and labour; but when once it is done, it will stand for many years, requiring only some repairs now and then; and thus the planters cannot fail in having large crops, barring such accidents as we have mentioned; the common acre of good land being about eighty bushels of rough rice per acre, which, when beat out and cleaned, will yield two thousand pounds weight, or four barrels fit for market;

besides a considerable quantity of small broken rice, which negroes eat.—Notice was taken above, of spring tides in the fresh water rivers, the reason of which should be explained—these are owing to the greater influx which the sea makes for three days before, and as many after every change and full of the moon; so that they hold for the space of six days every fortnight. For, at such times, the sea flowing in with a stronger current, and rising some feet higher in the rivers so far as the tide flows,—this more rapid influx checks the course of the waters in the rivers, which tend naturally towards the ocean, and causes them to swell and overflow the low lands above.

But besides the principal rivers spoken of above, there are many others of less extent, which arise from low, springy or marshy lands, and, as they branch out far and wide, innumerable navigable creeks are every way formed throughout the country: an easy water carriage is thereby given from one place to another; a great convenience this, which no province is more favoured with than South Carolina. All these rivers discharge such quantities of muddy water into the sea, that when ships come into soundings, at the distance of fifteen or twenty leagues from the shore, the water, from having been of a transparent azure colour, now appears thick, as containing many earthy particles. One thing worthy of remark is, that all our rivers (and I suppose it to be so every where) have what are called bars, where they disembogue themselves into the sea. So that according to the quantity of water they discharge, and the rapidity with which this is done, these bars lie nearer to or farther from the shore. By bars are meant banks of sand, on which the water is shallower than in other parts—these are



formed by what are called counter-tides. For as the waters in all rivers, are ultimately discharged in the sea, and before they empty themselves into it, their rapidity is greatest on the tide of ebb; and as the waters of rivers always abound with sandy and earthy particles, and a pause happens between low water and the first of the flood, as well as between high-water and the ebb, the grosser parts then have time to subside; but as the sea also, by its superior pressure, on its influx of flood, soon overcomes the force with which the waters in rivers tend downwards, and it likewise, by the swiftness of its flowing, brings along with it much sand, broken shells, &c. whatever was before deposited on such places, is likewise added to, this way.

Along the banks of every river, lies much low land, which is mostly covered at high water, so far as the tide flows: and when this ebbs away, a nauseous smell exhales from these marshes, owing to the many dead shell fish, &c. that lie rotting promiscuously in the deep slimy ouze, as well as from the latter itself; which, perhaps for many ages, hath continued in a stagnated and undisturbed state. So far as the sea water flows, these banks are covered with a high and strong sedge sort of grass, of the wild oat kind—and at a greater distance from the sea, where the waters are always fresh, such swampy lands abound, not only with grass of nearly the same sort, as well as reeds, but also with a vast variety of other productions, from the lofty cypress down to the most humble plant. Besides these wet lands, in the interior parts of the country, are several fresh water lakes (but of no great extent) and great quantities of low level soil, which, after heavy rain, continue long overflowed, as not having sufficient declivities, by which the waters might run off.

In almost every settlement, much land is designedly overflowed, by stopping the water courses with strong banks of earth; whereby reservoirs of a good depth and extent are formed, in order to be let into the rice fields, when the plant is at a fit growth for receiving the water, for extracting the dye from the plant which yields indigo; or for mills of various sorts. And, whenever these collections of water are expended in the above purposes, or they are exhaled by the sun, or swept away by winds, such multitudes of fish and reptiles of various kinds perish, that, for a long time after, the air is tainted with the putrid effluvia that arise as well from the numberless bodies of animals, which are in the highest state of putrefaction, as the muddy soil. But these pools are dangerous to health on another score: for their surfaces being but little agitated by the gentle winds that commonly blow in the summer, and no motion nor fresh air being communicated to the waters at bottom, while the sun daily acts on them with great power, they necessarily must acquire some degree of *mephitism*. But noxious exhalations will abound still more, when the waters are nearly or quite expended—For then the sun's rays penetrating the miry soil, those vapours that had been pent up for a long continuance of time, which, therefore, may be supposed to have contracted vicious qualities, are now set at liberty, and mix with the air we breathe.

The soil of this country is very various; for within twenty miles of the sea, it is generally light and sandy; but far from being infertile—This, however, is to be understood of the uplands only; for in many other places, the mould is as rich and deep, as can be found any where. But, even in the most barren lands, vegetation is so luxuriant, when the wea-

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ther is showery, that a plentiful increase is reaped from them. On the other hand, such moist weather is productive of innumerable multitudes of those reptiles and insects, that require standing water for their ova to hatch in; some of which are very troublesome to the inhabitants; more especially at night, unless they be secured from their stings, by surrounding the beds with gauze pavillions. But, the heat of the sun is so great, when the season is dry, and the earth becomes so parched, that no seed which is sown, will grow; and those things that were thriving and promised well before, may at such times be destroyed, or yield but little.—In this respect, however, rice seems the most hardy of all plants; for it will recover when the rains set in, even after it has been burnt down to the ground.

Further back in the country, the uplands very generally have a good soil; and the fertility of those that are low, is thought to be inexhaustible.—Even the very mountains are covered with a fine verdure of lofty trees, except in some few places, where the summits consist of naked rocks; amongst which is lime-stone or marble of different colours. But, except in one river, a stone larger than a pebble is not to be found any where within twenty miles of the sea, setting aside those that have been brought hither as ballast for ships.

I doubt not but South Carolina produces all sorts of metals—gold, silver, copper, iron, and lead have already been discovered. We also have antimony, allum, talc, black-lead, marle, and very fine white clay, which is fit for making porcelain—I likewise have seen emeralds, that were brought from the country of the Cherokee Indians, which, when cut and polished, tell nothing short of those which are imported from India

in lustre; and rock-crystal abounds in several places.

When the English first took possession of this country, excepting savannahs (which are plains naturally without trees) and some small openings, that were here and there made by the Indians, the whole was one continued forest; and perhaps, one twentieth part of it is not yet cleared and cultivated.

From the surfaces, therefore, of so many large rivers, and numerous collections of standing waters; such quantities of sunk, fenny and marshy lands, and the vast Atlantic Ocean that borders on our coast, it may readily be inferred, that excessive exhalations must be made in this sultry climate: to which should we add the exuberant transpiration from the soil, and the abundant perspiration from vegetables of all sorts, which every where cover the ground, the reason will plainly appear, why our climate should be very moist—and that it is so, will be clearly seen from the rain that falls at Charleston, which, at a medium for ten years, was forty-two inches annually, without regarding the moisture that descended in fogs and dews. During the above period, the greatest depth of rain in one year was 54.43, and the least 31.95, inches; the most of twelve hours being 9.26 inches; and on the 28th day of June 1750, the rain of two hours was 5.30. inches. However, 65.96 inches of rain have been known to fall in one year, before I kept a journal of the weather. I will just observe of dews, that where they are heavy, as with us, they shew an atmosphere replete with moisture. And, indeed, so great are they in common seasons, that those who are abroad at night, are presently so damped and chilled by them, that a general and irksome lassitude is quickly perceived; and it is well if nothing worse happen. For to pe-

netrating are those dews, that they quickly pass to the skin (no apparel being proof against them) and thus convey the cool damp air to the surface of the body; beside the ill consequences that may thence ensue to the lungs and passages leading to these organs—The same may nearly be said of fogs, which, sometimes, in the winter, obscure the sun, for several days together: whence, if no other bad effects ensue, a torpor both of the mind and body will be induced.

During this dark weather, water may be seen pouring down looking-glasses, and whatever is painted; candles burn dimly, the flames appearing as if surrounded with small halos; marshy grounds, ditches, sinks and shallow standing waters, emit an offensive smell; and all things are so damped within doors, where no fires are kept, that on entering a house, one is sensible of such a metaphysical frouzy smell, as is perceived in the apartments of those who are sweating in fevers.

Though it be true, that much rain is a proof of great humidity in the air, yet it is no less certain, that heavy dews and thick fogs indicate the same, with rather more assurance—For these, more especially the former, never fail at all seasons with us, unless the weather has for a long time been uncommonly hot and dry—and the latter almost as certainly happen in the autumn and winter, when the nights are calm: for supposing the fog not to be general, a thick heavy cloud will then be seen every morning hovering over the rivers and all collections of standing waters, throughout the autumn and winter, unless in time of frost,

It is almost needless to mention that these exhalations do not consist of simple aqueous particles; for they must partake of the qualities of the several bodies that emit them.

Whence it is not unlikely, that according to their various specific properties, or those which may be generated from so heterogeneous a mixture, the purity of our air may in some singular manner be affected, more especially during the summer, when these so very different principles are rendered more active by heat.

As we have no hills nor mountains near us, to collect or conduct the currents of air, the wind seldom blows with a force exceeding four degrees (supposing the whole of its range to be divided by a scale of seven) except in time of a hurricane; which happens but seldom, and at no stated periods—Nor does such an outrageous storm arise at all, unless the winds have been small, and the weather very hot and dry, for a considerable time before—Hence it should seem, that the air at last becomes so rarefied, as to permit the contiguous denser atmosphere, to rush towards ours with great violence, as into an exhausted receiver, in order to restore the equilibrium. On these occasions, the storm always proceeds from the north-east; this being the opposite point to that, whence the wind had blown so long before—And after having exerted its fury for a longer or shorter time, (though its greatest impetuosity seldom exceeds twelve hours, and having as it were overcharged our atmosphere,) it shifts first to east, then to the west, and lastly to the north-west; by which time the elements being as it were balanced, the weather becomes perfectly settled and fair, as if no such furious storm of wind and rain, had raged so immediately before, and threatened us with destruction.—But the ravages it makes may be but too plainly traced, by the many shipwrecks, ruins of houses, and the loss of lives it occasioned.

Notwithstanding the damages sustained by individual persons on such occasions, the want of such tempests for many years together, is probably a great misfortune to us; because the air does not receive so frequent and thorough ventilations, as might be conducive to health, in such a climate as that of South Carolina. But, till the land be more cleared, our atmosphere cannot be wholly renewed even by a hurricane. For the two which happened in September, in the year 1752, were scarcely perceived one hundred miles back in the country, in a direct line with the wind. Though the first raged for the space of ten hours, yet the wind, violent as it was, could not penetrate such an extent of close woods; notwithstanding many thousands of trees were destroyed in the maritime parts. And as, in very many places, these woods are equally impervious to the sun's rays, it may be supposed, that the air is, in some measure, stagnant in those close recesses; which, for the present, renders them more proper for the habitations of wild beasts than of men. It, therefore, seems plain, that various circumstances concur to vitiate the salubrity of our climate—every wind, excepting that which comes from the sea, contributing thereto. Of these effects, we might, sometimes, be more sensible, were it not for an acid, or some other saline principle, which seems to predominate in our atmosphere. And that somewhat of this sort does really take place, may be inferred from the speedy rusting of polished metals, and the remarkable fading of such dyed stuffs, as require acids to fix or heighten their colours. For these strongly attracting this salt from the air, it soon prevails over the virtues of the other ingredients. But, whether this salt be proper to the air itself, be of vegetable, mineral or marine production, or be a compound

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of all these blended together, may ever remain a secret. Indeed, we may suppose, that some portion of the essential salts of vegetables, passing by perspiration, may contribute towards it; or that the sea, perhaps, furnishes a part thereof, as our most prevailing winds blow from thence. I would be understood, of the winds in the maritime country only: for in the remote hilly parts, to the westward, from their distance and high situation, the climate is more pure and temperate, and the winds more changeable in the summer; and, in the winter, the weather is bleaker; frosts and deep snows being very common there, when, at the same time, the season is mild and open with us.

Our air is liable to as sudden and great changes in its temperature, as can possibly happen in any country. But, happily, the greatest variations generally are from warm and moist, to cold and clear weather. These extraordinary vicissitudes are most frequent in the winter and spring: though in the autumn, the difference between the heat of the day and night, often exceeds twenty degrees: and the general difference, throughout the year, may be from ten to fifteen degrees, in the space of twenty-four hours, when the weather is settled. But this must only be understood of the shaded air in the day; between which and the heat sustained by those who are exposed to the direct rays of the sun, the difference will be twenty degrees, and still more in some situations.

From this comparatively greater coolness and moisture of the air, at night, it probably is, that when the weather is calm, during the autumn, and even later, the whole country will be covered with a thick fog. For, as the earth retains the heat it received from the sun in the day, longer than the atmosphere does, it

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still emits vapours; which yet cannot ascend to any considerable height, because of the colder air above: and as the humidity, which before was diffused aloft, is then made to coalesce and fall lower by its gravity, being thus augmented, they together form those dense clouds, which hang as it were balanced between the cooler medium above, and the warmer one below. But as the heat of the soil abates more, the longer the sun has been absent, the clouds descend still lower, till they cover the face of the earth in such a manner, that, in the morning, the largest objects are intercepted from our view, at the distance of twenty yards, sometimes. But even then, should we look out of a window up two pair of stairs, though the ground below us cannot be seen, the air is perfectly serene at that height. The surrounding higher prospects then appear so very romantic, that the whole looks like enchantment. For as only the tops of trees and houses can be seen, they seem to grow and stand, as it were, in the middle of a great sea; so the fog appears.

This scene will continue till these vapours be exhaled by the sun, or dissipated by the wind; which commonly happens by ten o'clock in the morning, or earlier: and as they evaporate, it is curious to observe, how one part is detached from another, as it were in large white fleeces, rolling over and over: and being wafted along in small thin clouds, by a gentle breeze, the whole will be dispersed before noon, unless the weather continue quite calm.

That there may be some truth in the above reasoning, with respect to the formation of those fogs, seems probable, from their being rarely seen at any considerable distance from our coast: nor is Charleston so liable to them, as the country at a little distance from it, because this

abundant moisture in the air, is repelled by the many fires that are burning, the smoke of chimnies, and the heat that is reflected from the streets and houses. But still they happen too often even with us, notwithstanding these preventives which warm and dry our air: so that it always is from ten to fifteen degrees hotter in town than in the country; where it frequently freezes pretty hard, whilst at the same time, no signs of ice appear in town. And this difference of climate, between the two situations, may likewise be the reason, why the people in the country enjoy better health, during the warmest weather, than the inhabitants of Charleston do: and from the same principle, joined to a greater degree of moisture and coolness in the air, it may be also, that, on the contrary, the people in the country are more sickly in the autumn, when the weather is changeable, than we are in town.

Lightning and thunder happen at all seasons, when it rains immediately after a shift of wind: but from April to September, we seldom have a shower without both; though they generally are most dreadful in June, July and August: and scarcely a night passes in summer, but lightens in some part of our horizon.

The short storms, called thunder-gusts, are most violent after great heat, and a particular sultriness in the air, which affects us very sensibly, though the thermometer shews nothing of it. When these thunder-clouds are forming, it is surprising, in how short a time, our atmosphere, which was quite serene before, is overcast with a gloomy darkness: for the clouds, which are then in view, seem to rush from all directions towards that part, from whence the thunder-shower is to be expected. These foreboding appearances are very alarming: for no one knows what

damage may ensue, or on whom the storm may fall. Nor are these apprehensions unreasonable. For (setting aside the solemn horror attending such an apparatus of black heavy clouds, which suddenly darken the air—the storm of wind and excessive rain, or perhaps hail, which presently follows, together with the almost incessant flashing of lightning and rolling of thunder, seemingly just over our heads) several persons are every year killed by the lightning; beside the damage that is done to houses and ships during these sudden gusts. At such times, the rain does not always pour down with equal violence, short pauses intervening; during which the greatest damage is generally done by the lightning, much of the electrical fluid descending silently when the rain is most heavy. When these thunder-showers happen at night, the scene is more awful: for the firmament seems then as in a blaze; the glare of lightning and stunning noise of thunder, somewhat resembling a bombardment.

Yet notwithstanding the accidents which may befall some few people at such times, it is not to be doubted, that these reiterated storms are, for the present, of eminent use to mankind in so hot a climate; where, during the summer, the air might contract some degree of mephitism, were it not ventilated, and, as it were, renewed by these temporary agitations; whereby the pernicious vapours are either precipitated with the rain, or dispersed by the winds. And as these heavy rains descend from a colder region, they not only cool and refresh both the air and the earth, whereby we are sensibly invigorated, but they also greatly promote vegetation: and such standing waters as have contracted some degree of putrefaction, are also diluted by the same means, that the exhalations they emit, are now less in-

jurious to health. But it cannot be denied, that if the showers be frequent, or they happen as it were daily for any continued length of time, intermitting or remitting fevers will be more common, especially when the weather sets in warm again, even though it were fair after the earth had been thus drenched, and the ditches and fields were filled with water.

The quantity of rain that was said to fall here, will no doubt appear large to those who live in more temperate climates. Yet by all I could learn, the rains must have been greater as well as more frequent, fifty or sixty years ago: for an old gentleman, who had been provincial secretary in the year 1735, assured me, that in the space of twenty-four hours, an empty tar-barrel thirty inches deep, which stood on end, was filled to the brim by the rain; nay, that much of the water that fell into it, had run over. But to make allowances for exaggeration, he mentioned a gentleman having won a wager which he made, that it would rain on forty successive days, towards the end of summer.

I cannot convey a better idea of the heat we feel, in passing along the streets at noon in the summer, than by comparing it to that glow which strikes one, who looks into a pretty warm oven: for it is so increased by reflexion, from the houses and sandy streets, as to raise the mercury, sometimes, to the 130th division of the thermometer, when the temperature of the shaded air may not exceed the 94th. Solid bodies, more especially metals, absorb so much heat at such times, that one cannot lay his hand on them, even for a short time, without being made very uneasy. Nay, I have seen a beef-steak of the common thickness, so deprived of its juices, when laid on a cannon for the space of twenty minutes, as to be

overdone, according to the usual way of speaking.

How high the mercury would have risen in the sun-shine, during the months of June and July, in the year 1752, when the weather was warmer than it ever had been known here, I could not discover, having then no thermometer, whose scale reached above 120 degrees. But as the mercury rose to this height in the space of fifteen minutes, when the glass was exposed to the sun, suspended at the distance of five feet from the ground, it became necessary to remove that instrument immediately, else it would have burst. This experiment was made in an open garden, where many things, being still, green shaded the earth; and consequently the heat was thereby lessened. But, from some trials that were since made in cooler weather, I have reason to believe, the mercury would have risen twenty degrees higher at the above season, had a proper instrument been at hand to make the experiment with.

During the hot season we are speaking of, when the shaded air was warmer than the natural heat of our bodies (for the mercury fell six degrees in a thermometer placed in my armpit) those who were exposed to the open sunshine, sustained a degree of heat, greatly surpassing any that ever shewed itself in the most acute disease; or even what is commonly thought to be inconsistent with life, much more health. Yet labourers and tradesmen worked abroad as usual: and blacksmiths, as well as cooks, did their business within doors; a few accidents happening to those, mostly, who lived in small rooms; in particular when their employments obliged them to keep fires in the same apartments; and also others, who overheated themselves by walking or drinking too freely of spiritous liquors, more

especially if they lay down to sleep, immediately after. Some again were seized with apoplexies, who happened to be hemmed in by a crowd at public sales; under which several circumstances many people died suddenly in town: and the like befel many negroes in the country, who were much exposed abroad.

At this time, I observed that my negro cook often quitted the kitchen, and stood in the open sunshine, for a little while fanning himself with his apron. This shewed that though the heat was very great abroad, it was yet refreshing to him, when compared to that which he sustained in the house. But the difference arose from a stream of free air or small breeze which was then blowing.

In order to know what degree of heat my servants were exposed to in the kitchen, I suspended a thermometer to a beam, eight feet from the floor, and fifteen from the fire, the windows and doors being all open on both sides of the house: so that this was the coolest station in it. But even here the mercury stood at the 115th division: and notwithstanding this seeming distress, the negroes assured me, they preferred this sort of weather, to the winter's cold.

As a register of the weather, perhaps, was never kept during so warm a season, some extracts from mine, relating to this, may not dispense the curious.

The preceding spring having been unusually dry, and not more than 5.41 inches of rain falling in May and June, we had not a shower from the 20th of the latter month, till the 21st of July; the weather in the mean time being excessively hot. The consequence was, that the vapours which floated in the air, were so elevated by rarefaction, that dew soon failed: the great heat of the

lights also contributing to their being retained aloft in the atmosphere; so that by the 13th of July, a general drought prevailed. For the earth was so parched and dry, that not the least perspiration appeared on plants, which shrunk and withered. All standing waters were dried up, as were many wells and springs: so that travellers could not find water, either for themselves or their beasts, for a whole day together: for, the soil being light and very transpirable, it was soon drained of its moisture. Those who were so happy as to have a small supply of water in their wells, willingly divided it between themselves and their cattle. But the latter not having a sufficiency to satisfy their cravings, were still clamorous for more; which yet could not be had, till the wells were replenished: and for this event, the poor suffering beasts waited so anxiously, that no driving could keep them long from the place. In several settlements, no water could be found, by digging ever so deep: for which reason, the inclosures were laid open, and the cattle driven out to shift for themselves. But very many of them perished for want both of pasturage and water; as probably, did great numbers of those birds, that require drink: for none of them were to be seen amongst us. In short, the distresses of men and beasts at this time, are not to be described.

When the mercury rose to the 87th and 88th degree of the thermometer in the shade, the atmosphere seemed in a glow, as if fires were kindled around us: the air likewise being so thick and smoky withal, that the sun appeared as a ball of red-hot metal, and shone very faintly. In breathing, the air felt as if it had passed through fire; nor were the nights much less sultry and distressing to us than the days. For the weather being generally

calm, and the mercury often up to the 88th division at bed-time, it was not in our power to lie long still, as being obliged to turn almost incessantly, in order to cool the side we rested on before. Refreshing sleep, therefore, was a stranger to our eyes; inasmuch, that people were in a manner worn down with watching, and the excessive heat together. Nor did this restlessness and frequent tossing prevent our being constantly bathed with sweat; though we lay on thin mattresses spread upon the floor, and had all the windows in our rooms open. Nay, many people lay abroad on the pavements. A man who had been out on some business, died instantly on his returning home, complaining only of his being fatigued and drowsy. His body presently became all over livid; the subcutaneous veins being greatly distended: and an excessive heat was found every where: which, as well as the *venous plethora*, continued but with little abatement, so long as his corpse lay unburied. But so speedy was the putrefaction of this and some other carcases, that they required to be quickly interred. For in the short space of five hours, the body of a pretty corpulent woman, who died as she was ironing linen, burst the coffin; so violent was the putrefaction. In order therefore to prevent such accidents, as well as to guard against the offensive smell of so rapid a putrefaction, it was found necessary, to wrap dead bodies in sheets that were rung out of tar, and bind them up tightly with cords.

During this season, a candle was blown out, and set in a chimney at ten o'clock at night, the wick of which continued to burn clearly till next morning; and was likely to do so for many hours longer. Q<sup>n</sup>. Was this owing to a want of moisture in the air to extinguish it?

When this violently-hot weather



began to break up about the 21st of July, every shower was accompanied with most dreadful lightning and thunder: by which several persons were killed in different places, besides the damages which were done to buildings and vessels. Among other instances of the alarming effects of lightning this year, the distress of one poor family may be related. The father and one of his sons being ploughing with four horses, they, together with the beasts, were all struck dead by one flash. The most dreadful and dangerous showers of this sort happen, when the clouds are collected as it were over our heads, without a brisk wind blowing at the same time, to carry them quickly from us. On such occasions, I have known it to lighten and thunder violently and with but little intermission, for eight or ten hours together: the clouds being all this while so low, that in one afternoon, the lightning fell on sixteen different objects in town; among which were nine dwelling-houses, one church, a meeting-house, and five vessels which were dismantled in part, besides receiving damage in their hulls. Yet, though the lightning struck so many places at this time, only two persons were killed by it.

The sudden death and excessive putrefaction of a dog, which was shut up in a sugar-baker's stove, where the mercury rose to the 146th degree, led dr. Boerhaave into some mistakes, with respect to the effects of heat on living animals: which almost every year are contradicted by experience in this climate. And certainly, no one circumstance that occurred in his experiments, can properly be applied to the effects of warm air, so it be but free, and is not too far deprived of its density and elastic pressure, as it must have been in that hot close place. The creatures, therefore, which were the

subjects of those experiments, do not die of heat alone, but rather of the rarity of the air, and the mechanical qualities it contracted in the stove, for want of ventilation. But we are assured, that, on several occasions, a still greater degree of heat is sustained by mankind, and for a longer time together, without any immediate danger to life.

During the summer of 1752, the mercury often rose above the 90th degree of the thermometer throughout the months of May, June, July and August: and for twenty successive days, excepting three, in June and July, the temperature of the shaded air varied between the 90th and 101st division: and sometimes it must have been 30 degrees warmer in the open sunshine; to which great numbers of people were daily exposed for many hours together, as already hath been said. I have also mentioned, that in the coolest part of my kitchen, the mercury stood at the 115th degree for several hours together. Besides, those whose business required them to be near the fire sustained a much greater heat without any accident or disease ensuing from it in my family, as well as in most others. Neither was it a more healthy season known than this, so long as the weather continued steadily warm and fair. True indeed it is, that those who happened to sicken during these intensely-hot months, might almost literally be said to have escaped through the fire when they recovered; which few in truth did, who were seized with fevers: and all those died, on whom dropsies had made any considerable progress.

All creatures seem equally affected with man by such intensely-hot weather; for horses sweat profusely in the stable, and flag presently when ridden. Dogs seek the shade, and lie panting, with their tongues lolling

as if they had long pursued the  
Poultry droop the wing, and  
eathe with open throats; in the  
inner cocks do when much heated  
fighting. Crows and other wild  
wls do the same; and are so un-  
willing to move, that they will suf-  
fer a man to come nearer them than  
other times, before they fly.

Few days pass throughout the  
year in which we do not see the sun:  
and the weather, for the most part,  
is moderate in the winter, that  
rattles burn steadily in the open bal-  
conies, on nights of public rejoicings.  
It seldom freezes more than four or  
five times in the above season: but  
when a thaw so soon succeeds, that,  
in the space of ten years, the ice may  
not be strong enough to bear a man.  
It is as unusual to see the ground  
covered with snow: and when this  
happens, it seldom lies twenty-four  
hours, except in some few places,  
which the sun's rays cannot reach,  
however, we sometimes have hail  
with summer showers: and hoar-frosts  
are frequent in the winter, as halos  
are at all seasons: but the aurora  
borealis is rarely seen: and when it  
appears, this is only for a glimpse,  
and no more.

As to whirlwinds, or typhons,  
they happen but seldom near the sea-  
coast, but oftener in the hilly coun-  
try behind us, as I have been in-  
formed: and wherever they pass,  
their route may be plainly traced;  
they sometimes every thing is demo-  
lished that stands in their way, trees,  
buildings, and birds being hurled along  
in their vortices.

About ten o'clock in the morning  
of the 4th of May 1764, a dreadful  
whirlwind was said to be observed  
in the Indian country, above three  
hundred miles to the westward of  
Charleston; which, between one and  
two in the afternoon of the same  
day, was seen approaching us very  
fast in a direct line, and not three

miles from the town. But when it  
had advanced to the distance of about  
half a mile from us, it was provi-  
dentially opposed by another whirl-  
wind, which came from the north-  
east; and crossing the point of land  
on which Charleston stands, the  
shock of their junction was so great  
as to alter the direction of the former  
somewhat more towards the south,  
whereby great part of this place was  
preserved from inevitable destruction.  
It then passed down Ashley river with  
such rapidity and violence that in a  
few minutes it reached Rebellion  
Road, where a large fleet of loaded  
vessels, with one of his majesty's  
ships, their convoy, lay, about four  
or five miles below the town, ready  
to sail for England; three of which  
were overset and sunk so suddenly,  
that some people, who happened to  
be in one of their cabins, had not  
time to come on the deck: and  
many of the other ships, which  
luckily did not lie so immediately  
exposed to the greatest fury of the  
tempest, would have shared the same  
fate, had not their masts given way;  
for all those it passed over, were laid  
down on their sides; and the mizen-  
mast of the king's ship was carried  
off close to the quarter deck, as  
smoothly as if it had been cut with  
a saw.

As people sat at dinner that day,  
they were alarmed with an unusual  
sort of stunning noise, as of the rus-  
sling of many drums, intermixed with  
such a roaring, thundering, churning,  
or dashing sound, as the sea makes, in  
breaking on a hollow rocky shore,  
during a violent storm; when, on  
running out of doors, the tremen-  
dous cloud was seen advancing at a  
great rate, with a quick circular  
motion, its contents seeming in a vi-  
olent agitation, from the great tu-  
mult that appeared, not only in the  
body of the column itself, but like-  
wise from the contiguous clouds

which drove rapidly towards it from all directions, as if the whole contents of the atmosphere flowed thither, and were instantly absorbed by it. Hence it was, that this meteor every moment appeared so differently; some parts of it being black and dark at times; others of a flame colour; and again as if vast waves of the sea had risen into the air. But such was the perturbation in the cloud, that these phenomena varied continually; all parts of it rolling over each other in the most confused and rapid manner: and, every now and then, large branches of trees might be seen hurled about in it. Its diameter was thought to be about three hundred yards, and the height thirty degrees; a thick vapour emitted from it rising much higher. In passing along, it carried the waters of the rivers before it, in the form of a mountainous wave; so that the bottom was seen in many places. Such floods of water fell on those parts, over which it passed, as if a whole sea had been discharged on them at once: and for a mile or two on each side of it, abundance of rain fell. As the wind ceased presently after the whirlwind passed, the branches and leaves of various sorts of trees, which had been carried into the air, continued to fall for half an hour; and in their descent, appeared like flocks of birds of different sizes. A gentleman, over whose plantation the skirt of this storm passed, not more than two miles from Charleston, assured me, that had a thousand negroes been employed for a whole day in cutting down his trees, they could not have made such a waste of them, as this whirlwind did in less than half a minute. Such trees as were young and pliant, stooped to its violence, and afterwards recovered themselves. But all those, which were more in-

flexible and firmly rooted, were broken off, and hurled away: so that no part of many of the trees could afterwards be found; among which were some live oaks of near two feet diameter, the wood of which is known to be almost as ponderous and hard as lignum vitae; so that some of these trees must have weighed, perhaps, more than two tons. Yet heavy as they were, no remains of them could afterwards be found any where, except the roots, which were fixed in the earth.

On the forenoon of the above day the wind blew pretty strongly from the west: the atmosphere being much obscured and greatly disturbed with small broken clouds flying swiftly along: so that it had the appearance of the ocean when agitated by a tempest.

The lowest station of the thermometer for ten years was 18, and the highest 101, the difference between which, being 83 degrees, may be esteemed the utmost variation in the temperature of the shaded air for the above space of time. This indeed far greater than might be expected in southerly a latitude: though for years before, the mercury fell to the tenth division or 22 degrees below freezing. I always made three observations daily; the first before sunrise, the second at two P. M. and last, at ten o'clock at night; besides noting whatever remarkable difference happened in the state of the air between whiles. Now if the sum of all the stations of the mercury the thermometer be taken together for the year or any number of years and divided by the number of observations that were made, the produce will be 66 degrees, for the annual mean heat of our climate. This exceeds 48, which is nearly the medium of the heat in Great Britain,

more the point.

The difference of the barometer in years, inches: measure of sphere, the 15th part of warm air held near mercury and east same; but west weather say not philosophy instrument of the seems of less spirit many people they do

I have convenient exposed the colour equal without such a Carolina we have weather

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registered common on at when, been so and common any degree planet opinion the reason which as well therm Vo

more than that does the freezing point.\*

The difference in the range of the barometer, for the space of fifteen years, was not more than 1.22 inches: so that if this instrument measure the weight of the atmosphere, that did not vary more than 1/10th part, in the above time. Very warm air, or the flame of a candle, held near the tube, will cause the mercury to rise in the barometer: and east or northerly winds do the same; but it subsides with a south or west wind, more especially if the weather be overcast and moist. I say nothing here of the mistake of philosophers, in believing that this instrument measures the real weight of the atmosphere; for to me it seems only to indicate its greater or less springiness and elasticity. Of this many proofs might be given; but they do not belong to this place.

I have mentioned some of the inconveniencies to which our climate exposes us at times: and where is the country which is not liable to equal if not greater disadvantages, without affording the inhabitants such accomodations as that of South Carolina does? In summer, indeed, we have about four months of warm weather; which yet with prudent

NOTE.

\* I observe, that those who keep registers of the weather in Britain, commonly make their first observation at eight o'clock in the morning, when, at some seasons, the sun has been several hours above the horizon, and consequently the air is by many degrees warmer than before that planet appears. But this, in my opinion, is not the way to discover the real temperature of any climate, which requires that even the lowest as well as the highest stations of the thermoscope should be noticed.

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care, may be passed over tolerably well. Besides, the heat is not equally excessive every year: and the mildness of the climate, during the other eight months, makes up for whatever uneasiness we suffer in the summer. But, be the heat more or less, it must be got over as well as we can; for without a warm season, neither rice, tobacco, indigo, nor some other valuable productions could be raised. Moreover, this sort of temperature is so adapted to vegetation, that South Carolina produces several commodities which are very advantageous to the commerce of Great Britain and America, and extremely profitable to the people here, some of which will no grow in any province to the northward of us; and I am confident others will be discovered by time; vines and olive trees thriving luxuriantly here.

Besides, many *valetudinarians* are free of some disorders in the summer, which are not only painful but dangerous during the winter, as will hereafter be seen: and in particular the aged enjoy better health, and are able to quit their chambers during the former season.

Beside the several articles already mentioned, both the air and soil differ so much in the inland parts, from ours near the sea, that every thing, which the temperate climates in Europe yield, may be raised in great abundance there; as all sorts of European fruits, and wheat, hemp, and flax, which all grow extremely well there; of the latter in particular two crops are produced in one year. But the sugar cane, ginger, and other natives of the countries within the tropics, though they thrive well with us during the summer, are destroyed in the winter.

We have hitherto been speaking of vegetables only: but should we mention cattle of all kinds, as well as swine, they multiply here in a sur-

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prising degree. For as the thickets are warm and close, a constant verdure is found there in the winter, even though the weather should be frosty; for then the young canes or reeds, and several other plants, being green and full of juices, there is no need of houses to shelter, nor of provender to support the cattle during the coldest season; for they lie warm abroad, and brouse on somewhat or other. Any person, therefore, who inclines to raise black cattle, hogs, or horses, marks out a few hundred acres of land in some unsettled part of the country, where he finds a good range; and drives thither as many cows, bulls, hogs, stallions and mares as he pleases, where they increase without any more trouble, than to have a few negroes to plant provisions, in order to keep the hogs together, and use them to the settlement, by giving them a little maize now and then; for the woods yield a sufficiency of nuts and roots to maintain them. As to the black cattle and horses, they are driven up once every year, in order to mark and brand the increase. After which they are again suffered to feed at large, perhaps to the distance of twenty miles, unless it be required to collect some of them for sale, when they are wanted. In this manner, some persons who have stocked such farms with fifty or more black cattle, &c. have in fifteen or twenty years marked three or four thousand calves yearly, and hogs without number, besides horses. These creatures, however, are not without enemies, whilst they are young and unable to defend themselves; for wolves, bears, leopards, panthers and wild cats of a large size, prey on them: and some are also destroyed by the bites of snakes.

We, moreover, abound with all sorts of provisions, which are good in their kinds, and sold at a suffici-

ently cheap rate. Every industrious man may find employment and receive high wages for his labour; so that with economy, he has a prospect of acquiring a tolerable fortune in the space of sixteen or twenty years: as very many Dutch people have done, after being cleared of the servitude which they consented to undergo, for the payment of their passages hither. Nay, many of those have managed their affairs so well, that they now possess several well-built houses in town, or have plantations and slaves in the country. A master bricklayer, and a ship or house-carpenter, if he work by the day, will charge seven shillings sterling; and a journeyman to either of these trades, will, for his wages, have five pounds sterling by the month; the half of which need not be spent, if he be careful and go the cheapest way to work, though he may live very well at the same time. But then they must abstain from taverns and gaming houses, which being numerous in this place, are but too much frequented by many to the neglect of their business and ruin of their families.

As an observation that concerns natural philosophy, I will just mention, that bugs, musketoes and some other insects, are denumbed by cold and cease to be troublesome, when the mercury falls below the 60th division of the thermometer. This perhaps, shews the reason, why these creatures cannot be generated in great numbers, in any climate where the mean heat does not exceed the above degree. Bugs, however, will appear in cities that are closely built, as such places are known to be much warmer than those, that are more open to the air. Besides, when great numbers of houses are crowded together, and these are fully inhabited, the heat of the air must thereby be much increased, as well as by the smoke of

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many chimnies. Moreover, the heat these buildings absorb from the sun will again not only be communicated to each other by reflexion, but likewise to the air itself, which, among several others, is one reason, why cities are generally more sickly than villages, unless the latter stand in low and damp situations.

Charleston, the metropolis of South Carolina, stands in the latitude of 32 degrees 45 minutes north, and in the 79th degree of longitude, or five hours and sixteen minutes west from London, at the distance of about twelve hundred leagues, on a W. S. W. course. The town is built on a narrow peninsula which is formed by the conflux of Ashly and Cooper rivers, which are broad and deep, and discharge their waters into the ocean, about six miles below this place. In these rivers is a rapid flood and ebb, which in the middle of the stream, runs at the rate of between three and four miles in an hour; and the tide, in common, rises and falls about five feet, but at new and full moon seven feet. As the gulph of Florida runs with a swift current towards the N. E. at the distance of about fifteen or twenty leagues from our shore, it will be easily understood, why a strong N. E. wind should always make a high tide in our rivers: as, by directly opposing that stream, it is made to recoil on our coast, and thus causes the rivers to swell. Consequently, during the first hurricane which happened on the 15th of September 1752, the tide was said to rise six feet in perpendicular height, in the short space of ten minutes: so that had the sea continued to flow in this manner one hour longer, Charleston must inevitably have been destroyed. But though the ordinary time of flood was not then half spent, providence most mercifully interposed, by causing the

winds to shift to the south, and west, when the waters were carried off, rather more quickly than they rose before. For the storm still continuing, after these latter winds set in, and blowing directly in the same course with the gulph of Florida, so speedily were the waters made to recede, that several people who were obliged to quit the lower floors of their houses, (so high was the tide in them) and retire to the upper rooms, were in a few minutes most agreeably surpris'd to see it entirely gone off: whereas but just before they had expected immediate death.

Three sides of this town are wash'd by the above rivers; the ground between them being so low and level, that it is not seven feet, nor is the country for twenty miles round, ten feet higher at a medium, than the surface of full sea is at spring tides. This is both a healthy and an agreeable situation in such a climate; for we stand as it were in a large plain, having the sea open to us on one side, and the rivers afford so easy an opportunity to free ourselves of nuisances, as would be thankfully embraced by many communities, who regard decency, or, which is of greater consequence, health. But I am sorry to say it, we do not avail ourselves of this admirable conveniency, so much as we ought to do.

The streets are from sixty-six to thirty-three feet wide, running from east to west: and these again are intersected by others at right angles, having drains under them, to prevent the water from standing long any where during wet seasons; the good effects of which, with respect to health, are already sensibly felt. But not being paved, except for a few feet along the fronts of the houses, the streets are dirty during rainy weather, and dusty when it is dry. It must, indeed, be confessed,

that the plan of this town was originally bad, considering that the heat of the climate made wide and airy streets necessary; more especially when there was no need for limiting them to such scanty breadths; as in those days there was a sufficiency of ground, which was no man's property, and therefore it might have been disposed of in a manner more suited to the welfare of the future inhabitants. And which is still worse, there are many narrow lanes and alleys; and more are daily laying out, with the view of increasing the value of land. But the legislature should prevent such nuisances; for those confined situations may hereafter prove a nursery for diseases, not of the most tractable kind, when the town becomes large, and is more closely built; in which respects it is amazing to see the vast progress that is making by the great number of houses which are daily raising.

At the distance of six miles, the sea is open to us from the east to the south-east. Georgia and the two Floridas lie to the south-west and west. To the westward is the main continent of North America, the breadth of which is not rightly ascertained. North-west and north is a prodigious tract of country, in which are several vast lakes or inland seas, which, together with the adjacent territories, are frozen half the year: and not many degrees north of these, both the sea and land are almost always bound up with ice: and to the north-east lie the English provinces.

From this view of our situation, it will appear, that as a south wind blows from the warmer latitudes, and sweeps over a great extent of sea, it must always be hot and moist. That which comes from the south-west and west, must be sultry and moist in the summer, as it passes over large spaces of heated, marshy, overflowed

or wood-lands: and in the winter it will bring damps or rain, being fraught with the exhalations that are made from the above soils, as well as with those vapours which are collected and condensed by the high bleak mountains which lie behind us. On the contrary the winds which blow from the north-west and north, will be cool and refreshing in the summer, but chilling during the winter: and, at all seasons, they dispel clouds and fogs by their pure elastic pressure; so that whenever the weather becomes rainy or overcast, it may be expected to continue so, until the wind shift to one of the above points. We seldom have a clear sky with a north-east wind: more especially towards the autumnal equinox, when it generally blows briskly, and is attended with heavy rain. Lastly, that wind which commonly springs up from the south-east about ten o'clock before noon, in the summer months, is called, by way of eminence, the sea breeze. This at first sets in very gently, causing only a little ruffle on the water now and then: but by degrees it increases in strength, and fans briskly till six or seven in the evening, when it gradually abates, and ceases before night. About eight or nine o'clock, a small westerly wind arises, and continues till the same hour next morning, when it likewise fails: and after a pause of one or two hours, the sea-breeze sets in again: so that these alternately succeed each other in the summer, when the season is regular, and prove wonderfully refreshing to us.

As the land near Charleston is not sufficiently high to give rise to many springs, we, for the most part, use well-water which is always more or less brackish: and it will be quite salt, if these wells be sunk more than eleven or twelve feet; their bottoms being then on an equality

with the surface of the low tide: nor will the water rise more than four or five feet in them; as at that depth it will be on a level with the rivers at full sea. Hence it seems, that these wells are supplied with water from the rivers by filtration through the sand. Fifty-five cubical inches of the water we commonly drink, weighed six grains more than an equal bulk of rain: and when the same weight of sea salt was added to the latter, it precipitated a solution of silver; became of a milky colour, with oil of tartar per deliquium; and tasted as the well-water. These are proofs, that our water contains a considerable portion of common salt: and accordingly, it induces a nausea or griping and purging in those who are not accustomed to it. In the country, however, excellent springs abound: and higher than the tide flows, the river water is soft and wholesome; but being somewhat muddy, it ought to be permitted to settle, before it be used.

As to the way of living in Charleston, it is much after the English manner. But either weak and pretty four punch, or rum well diluted with water, and without acid or sugar, is used by many for drink, though wine and other liquors are likewise brought to table. Tea and coffee are so cheap, that one or both are used once, if not twice in the day, by people of all ranks. But this custom cannot fail in having ill consequences, in some constitutions, particularly during the relaxing heat of the summer: and perhaps the tea itself may possess some qualities that are not friendly to the human constitution; at least it is injurious to many people. For want of daily markets in the country, more salted and smoked meats are consumed by the people there than in town: they also abound with poultry of all

kinds: much milk is used in various ways: more fruit is eaten in the season; and less wine is commonly drank, though in general they are far from being sparing in the use of rum. Some of these remarks, however, are to be understood with restriction: for no people in middling life, supply their tables better than gentlemen in the country do: and none entertain strangers or friends with more hospitality. Either the Indian corn, called maize, ground small, or rice boiled with water to a thick consistence, being preferred to bread by many of those who live in the country, they are brought to table almost at every meal. This, as I said above, is out of choice; for we have plenty of wheat-flour.

It has already been said, that Charleston increases fast in buildings and people: but at present there are not quite twelve hundred dwelling-houses, with nearly as many kitchens which are built separate; besides a great number of ware-houses, all which being viewed together, give the place the appearance of a large and well-built town. The modern houses are large, airy, and convenient, being from two and a half to three and a half stories high, and of suitable dimensions. And the banks of Cooper river being as yet mostly built upon, and the houses lofty and contiguous, they are seen to great advantage, by those who approach the place from the sea, after a long voyage, as being fully in view for the space of eight or nine miles, before they come to an anchor in the harbour.

The white inhabitants of this town, may be about five thousand five hundred: but the mortality among them, cannot be exactly determined at present, no register thereof having been kept for several years. Formerly, when bills of mortality were annually printed, the inhabi-



tants then being not quite four thousand, it appeared that one in thirty seven died yearly, or about one out of each family in the space of seven years and a half, supposing all the deceased to have belonged to the place. But these lists were swelled by the deaths of transient persons, it ought, however, to be observed, that, during the time those bills were published, no contagious or malignant distempers prevailed amongst us. And it must also be acknowledged, that we are rather more healthy since the hurricanes of the year 1752; children in particular, having escaped better since; for, before that time, almost half the number of deaths, happened amongst those who were under five years of age. There are many more negroes than white people in this town and province; and those of African descent, are as susceptible of all sort of diseases, as those of the other colour, if we except the yellow or malignant fever and gout. Besides, they are liable to particular complaints which seem peculiar to negroes only. However, even blacks, who live in all respects as we commonly do, are equally obnoxious to the gout with white men.

Births cannot be ascertained from the christenings: for children are not always baptized the same year in which they are born. But it is certain, they far exceed the deaths of the settled inhabitants.

The natives, for the most part, rise above the middling stature: and they attain their full height sooner, than the people usually do in colder climates. In general, they are of a slender make, have pale complexions, thin, fair or brown hair, which afterwards changes to a chestnut or black colour: but it seldom curls. They are forward in genius, and thought capable of receiving instruction earlier, than children in

Britain commonly are. With respect to their character, they are exceedingly hospitable, and of a mild temper, which yet is not without a quick sensibility of any designed affront; but their passions soon subside. Few live sixty years; and the bald or hoary and wrinkled appearances of old age, often shew themselves at the age of thirty years—or even earlier, more especially on those who dwell in the country.

The women are in full bloom, between their sixteenth and twenty-fifth year: and they are very generally well featured and genteel in person. The menses commonly begin to flow between the twelfth and fourteenth year; and that discharge ceases at different periods, between the thirtieth and fiftieth year of their ages, according as constitutions vary.



*Speech of Oliver Ellsworth, esq. in the convention of the state of Connecticut, appointed to take into consideration the new plan of federal government. Delivered, January 4, 1788, on opening the debates.*

*Mr. President,*

IT is observable, that there is no preface to the proposed constitution: but it evidently presupposes two things; one is, the necessity of a federal government, the other is the inefficacy of the old articles of confederation. A union is necessary for the purposes of national defence. United, we are strong; divided, we are weak. It is easy for hostile nations to sweep off a number of separate states, one after another. Witness the states in the neighbourhood of ancient Rome. They were successively subdued by that ambitious city; which they might have conquered with the utmost ease, if they had been united. Witness the Canaan-

tish nations whose divided situation rendered them an easy prey. Witness England, which, when divided into separate states, was twice conquered by an inferior force. Thus it always happens to small states, and to great ones, if divided. Or, if to avoid this, they connect themselves with some powerful state, their situation is not much better. This shews us the necessity of combining our whole force, and, as to national purposes, becoming one state.

A union, sir, is likewise necessary, considered with relation to economy. Small states have enemies, as well as great ones. They must provide for their defence. The expense of it, which would be moderate for a large kingdom, would be intolerable to a petty state. The Dutch are wealthy; but they are one of the smallest of the European nations; and their taxes are higher than in any other country of Europe. Their taxes amount to forty shillings per head, when those of England do not exceed half that sum.

We must unite, in order to preserve peace among ourselves. If we be divided, what is to prevent wars from breaking out among the states? States, as well as individuals, are subject to ambition, to avarice, to those jarring passions which disturb the peace of society. What is to check these? If there be a parental hand over the whole, this, and nothing else, can restrain the unruly conduct of the members.

Union is necessary to preserve commutative justice between the states. If divided, what is to prevent the large states from oppressing the small? What is to defend us from the ambition and rapacity of New-York, when she has spread over that vast territory which she claims, and holds? Do we not already see in her the seeds of an over-

bearing ambition? On our other side, there is a large and powerful state. Have we not already begun to be tributaries? If we do not improve the present critical time— if we do not unite, shall we not be like Issachar of old, a strong ass crouching down between two burdens? New-Jersey and Delaware have seen this, and have adopted the constitution unanimously.

A more energetic system is necessary. The present is merely advisory. It has no coercive power. Without this, government is ineffectual, or rather is no government at all. But it is said: "Such a power is not necessary. States will not do wrong. They need only to be told their duty, and they will do it." I ask, sir, what warrant is there for this assertion? Do not states do wrong? Whence come wars? One of two hostile nations must be in the wrong. But it is said: "Among sister states, this can never be presumed." But do not we know, that when friends become enemies, their enmity is the most virulent? The seventeen provinces of the Netherlands were once confederated: they fought under the same banner. Antwerp, hard pressed by Philip, applied to the other states for relief. Holland, a rival in trade, opposed, and prevented the needy succours. Antwerp was made a sacrifice. I wish I could say there were no seeds of similar injustice springing up among us. Is there not in one of our states injustice too barefaced for eastern despotism? That state is small: it does little hurt to any but itself. But it has a spirit, which would make a topshet of the universe. But some will say: "We formerly did well without any union." I answer: our situation is materially changed. While Great-Britain held her authority, she awed us. She appointed governors and councils for the American pro-

vinces. She had a negative upon our laws. But now, our circumstances are so altered, that there is no arguing what we shall be, from what we have been.

It is said that other confederacies have not had the principle of coercion. Is this so? let us attend to those confederacies which have resembled our own. Some time before Alexander, the Grecian states confederated together. The amphictionic council, consisting of deputies from these states, met at Delphos; and had authority to regulate the general interests of Greece. This council did enforce its decrees by coercion. The Boeotians once infringed upon a decree of the amphictions. A heavy mulct was laid upon them. They refused to pay it. Upon that their whole territory was confiscated. They were then glad to compound the matter. After the death of Alexander the Achæan league was formed. The decrees of this confederacy were enforced by dint of arms. The Ætolian league was formed by some other Grecian cities in opposition to the Achæan; and there was no peace between them, until they were conquered and reduced to a Roman province. They were then obliged to sit down in peace under the same yoke of despotism.

How is it with respect to the principle of coercion in the Germanic body? in Germany there are about three hundred principalities and republics. Deputies from these meet annually in the general diet, to make regulations for the empire. But the execution of these is not left voluntarily with the members. The empire is divided into ten circles; over each of which a superintendant is appointed, with the rank of a major-general. It is his duty to execute the decrees of the empire with a military force.

The confederation of the Swiss

cantons has been considered as an example. But their circumstances are far different from ours. They are small republics, about twenty miles square, situated among the Alps, and inaccessible to hostile attacks. They have nothing to tempt an invasion. Till lately, they had neither commerce nor manufactures. They were merely a set of herdsmen. Their inaccessibility has availed them. Four hundred of those mountaineers defeated 15,000 Austrians, who were marching to subdue them. They spend the ardour of youth in foreign service; they return old, and disposed for tranquility. Between some of the cantons and France, there has long subsisted a defensive treaty. By this treaty, France is to be a mediator to settle differences between the cantons. If any one be obstinate, France is to compel a submission to reasonable terms.

The Dutch republic is an example that merits attention. The form of their constitution, as it is on paper, admits not of coercion. But necessity has introduced it in practice. This coercive power is the influence of the stadtholder—an officer originally unknown to their constitution. But they have been necessitated to appoint him, in order to set their unwieldy machine of government in motion. He is commander in chief of their navy, and of their army, consisting of forty or fifty regiments. He appoints the officers of the land and naval forces. He presides in the states general, and in the states of every province, and by means of this, he has a great opportunity to influence the elections and decisions. The province of Holland has ever been opposed to the appointment of a stadtholder; because, by its wealth and power, being equal to all the other provinces, it possesses the weight and influence of the stadtholder, when that office is vacant.

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Without such an influence, their machine of government would no more move, than a ship without wind, or a clock without weights.

But to come nearer home, mr. President, have we not seen and felt the necessity of such a coercive power? What was the consequence of the want of it during the late war, particularly towards the close? A few states bore the burden of the war. While we, and one or two more of the states were paying eighty or a hundred dollars per man to recruit the continental army, the regiments of some states had scarcely men enough to wait on their officers. Since the close of the war, some of the states have done nothing towards complying with the requisitions of congress; others, who did something at first, seeing that they were left to bear the whole burden, have become equally remiss. What is the consequence? To what shifts have we been driven? To the wretched expedient of negotiating new loans in Europe, to pay the interest of the foreign debt. And what is still worse, we have even been obliged to apply the new loans to the support of our own civil government at home.

Another ill consequence of this want of energy, is, that treaties are not performed. The treaty of peace with Great Britain was a very favourable one for us. But it did not happen perfectly to please some of the states: and they would not comply with it. The consequence is, Britain charges us with the breach, and refuses to deliver up the forts on our northern quarter.

Our being tributaries to our sister states is in consequence of the want of a federal system. The state of New-York raises 60 or 80,000l. a year by impost. Connecticut consumes about one third of the goods upon which this impost is laid; and consequently pays one third

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of this sum to New-York. If we import by the medium of Massachusetts, she has an impost, and to her we pay a tribute. If this is done, when we have the shadow of a national government, what shall we not suffer, when even that shadow is gone?

If we go on as we have done, what is to become of the foreign debt? Will sovereign nations forgive us this debt, because we neglect to pay? or will they levy it by reprisals as the laws of nations authorize them? Will our weakness induce Spain to relinquish the exclusive navigation of the Mississippi, or the territory which she claims on the east side of that river? Will our weakness induce the British to give up the northern posts? If a war breaks out, and our situation invites our enemies to make war, how are we to defend ourselves? Has government the means to enlist a man or buy an ox? or shall we rally the remainder of our old army? The European nations. I believe to be not friendly to us. They were pleased to see us disconnected from Great-Britain; they are pleased to see us disunited among ourselves. If we continue so, how easy is it for them to canton us out among them, as they did the kingdom of Poland! But supposing this is not done, if we suffer the union to expire, the least that may be expected, is, that the European powers will form alliances, some with one state and some with another, and play the states off one against another, and that we shall be involved in all the labyrinths of European politics. But I do not wish to continue the painful recital; enough has been said to shew, that a power in the general government to enforce the decrees of the union, is absolutely necessary.

The constitution before us is a complete system of legislative, judicial, and executive power. It was designed to supply the defects of the G



former system; and I believe, upon a full discussion, it will be found calculated to answer the purposes for which it was designed.



*Another speech of the same gentleman, on the clause in the new constitution, respecting the power of congress to lay taxes, &c.—Delivered January 7, 1788.*

*Mr. President,*

**T**HIS is a most important clause in the constitution; and the gentlemen do well to offer all the objections which they have against it. Through the whole of this debate, I have attended to the objections which have been made against this clause; and I think them all to be unfounded. The clause is general; it gives the general legislature "power to lay and collect taxes, duties, imposts, and excises, to pay the debts, and provide for the common defence and general welfare of the united states." There are three objections against this clause. First, that it is too extensive, as it extends to all the objects of taxation. Secondly, that it is partial. Thirdly, that congress ought not to have power to lay taxes at all.

The first objection is, that this clause extends to all the objects of taxation. But, though it does extend to all, it does not extend to them exclusively. It does not say that congress shall have all these sources of revenue, and the states none. All, excepting the impost, still lie open to the states. This state owes a debt; it must provide for the payment of it. So do all the other states. This will not escape the attention of congress. When making calculations to raise a revenue, they will bear this in mind. They will not take away that which is necessary for the

states. They are the head, and will take care that the members do not perish. The state debt, which now lies heavy upon us, arose from the want of powers in the federal system. Give the necessary powers to the national government, and the state will not be again necessitated to involve itself in debt for its defence in war. It will lie upon the national government to defend all the states, to defend all its members, from hostile attacks. The united states will bear the whole burden of war. It is necessary, that the power of the general legislature should extend to all the objects of taxation, that government should be able to command all the resources of the country; because no man can tell what our exigencies may be. Wars have now become rather wars of the purse, than of the sword. Government must therefore be able to command the whole power of the purse, otherwise a hostile nation may look into our constitution, see what resources are in the power of government, and calculate to go a little beyond us; thus they may obtain a decided superiority over us, and reduce us to the utmost distress. A government, which can command but half its resources, is like a man with but one arm to defend himself.

The second objection is that the impost is not a proper mode of taxation; that it is partial to the southern states. I confess I am mortified when I find gentlemen supposing that their delegates in convention were inattentive to their duty, and made a sacrifice of the interests of their constituents. If, however, the impost be a partial mode, this circumstance, high as my opinion of it is, would weaken my attachment to it; for I abhor partiality. But I think there are three special reasons, why an impost is the best way of raising a national revenue.

The first is, it is the most fruitful and easy way. All nations have found it to be so. Direct taxation can go but little way towards raising a revenue. To raise money in this way, people must be provident; they must be constantly laying up money to answer the demands of the collector. But you cannot make people thus provident. If you would do any thing to purpose, you must come in when they are spending, and take a part with them. This does not take away the tools of a man's business, or the necessary utensils of his family: It only comes in, when he is taking his pleasure, and feels generous; when he is laying out a shilling for superfluities, it takes two-pence of it for public use, and the remainder will do him as much good as the whole. I will instance two facts, which shew how easily and insensibly a revenue is raised by indirect taxation. I suppose people in general are not sensible that we pay a tax to the state of New-York. Yet it is an incontrovertible fact, that we, the people of Connecticut, pay annually into the treasury of New-York, more than fifty thousand dollars. Another instance I will mention: One of our common river sloops pays in the West-Indies a portage-bill of £.60. This is a tax which foreigners lay upon us, and we pay it. For a duty laid upon our shipping, which transports our produce to foreign markets, sinks the price of our produce, and operates as an effectual tax upon those who till the ground, and bring the fruits of it to market. All nations have seen the necessity and propriety of raising a revenue by indirect taxation, by duties upon articles of consumption. France raises a revenue of 24 millions sterling per annum; and it is chiefly in this way. Fifty millions of livres they raise upon the single article of salt. The

Swiss cantons raise almost the whole of their revenue upon salt. Those states purchase all the salt which is to be used in the country: they sell it out to the people at an advanced price: the advance is the revenue of the country. In England, the whole public revenue is about twelve millions sterling per annum. The land tax amounts to about two millions; the window and some other taxes to about two millions more. The other eight millions are raised upon articles of consumption. The whole standing army of Great-Britain could not enforce the collection of this vast sum by direct taxation. In Holland, their prodigious taxes, amounting to forty shillings for each inhabitant, are levied chiefly upon articles of consumption. They excise every thing, not excepting even their houses of infamy.

The experiments, which have been made in our own country, shew the productive nature of indirect taxes. The imports into the united states amount to a very large sum. They never will be less, but will continue to increase for centuries to come. As the population of our country increases, the imports will necessarily increase. They will increase; because our citizens will choose to be farmers, living independently on their freeholds, rather than to be manufacturers, and work for a groat a day. I find by calculation, that a general impost of 5 per cent. would raise the sum of £.245,000 per annum, deducting 8 per cent. for the charges of collecting. A further sum might be deducted for smuggling, a business which is too well understood among us, and which is looked upon in too favourable a light. But this loss in the public revenue will be overbalanced by the increase of importations. And a further sum may be reckoned upon some articles, which will bear a high-

er duty than the one recommended by congress. Rum, instead of 4d. per gallon, may be set higher, without any detriment to our health or morals. In England it pays a duty of 4s. 6d. the gallon. Now let us compare this source of revenue with our national wants. The interest of the foreign debt is £.130,000 law-ful money per annum. The expences of the civil list are £.37,000. There are likewise further expences for maintaining the frontier posts, for the support of those who have been disabled in the service of the continent, and some other contingencies, amounting, together with the civil list, to £.130,000. This sum added to the interest of the foreign debt, will be £.260,000. The consequence follows, that the avails of the impost will pay the interest of the whole foreign debt, and nearly satisfy these current national expences. But perhaps it will be said that these paper calculations are overdone, and that the real avails will fall far short. Let me point out, then, what has actually been done. In only three of the states, in Massachusetts, New-York and Pennsylvania, 160, or £.180,000 per annum have been raised by impost. From this fact, we may certainly conclude, that, if a general impost should be laid, it would raise a greater sum than I have calculated. It is a strong argument in favour of an impost, that the collection of it will interfere less with the internal police of the states, than any other species of taxation. It does not fill the country with revenue officers; but is confined to the sea coast, and is chiefly a water operation. Another weighty reason in favour of this branch of revenue is, if we do not give it to congress, the individual states will have it. It will give some states an opportunity of oppressing others, and destroy all harmony between them.

If we would have the states friendly to each other, let us take away this bone of contention, and place it, as it ought in justice to be placed, in the hands of the general government.

"But," says an honourable gentleman near me, "the impost will be a partial tax; the southern states will pay but little in comparison with the northern." I ask, what reason is there for this assertion? Why, says he, we live in a cold climate, and want warming. Do not they live in a hot climate, and want quenching? Until you get as far south as the Carolinas, there is no material difference in the quantity of clothing which is worn. In Virginia they have the same course of clothing, that we have. In Carolina they have a great deal of cold, raw, chilly weather: even in Georgia, the river Savannah has been crossed upon the ice. And if they do not wear quite so great a quantity of clothing as those states as with us; yet people of rank wear that which is of a much more expensive kind.—In these states we manufacture one half of our clothing and all our tools of husbandry; in those, they manufacture none, nor ever will. They will not manufacture; because they find it much more profitable to cultivate their lands, which are exceedingly fertile. Hence they import almost every thing, not excepting the carriages in which they ride, the horses with which they till the ground, and the boots which they wear. If we doubt of the extent of their importations, let us look at their exports. So exceedingly fertile and profitable are their lands, that a hundred large ships are every year loaded with rice and indigo from the single port of Charleston. The rich returns of these cargoes of immense value, will be all subject to the impost. Nothing is omitted; a duty is to be

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paid upon the blacks which they import. From Virginia their exports are valued at a million sterling per annum: the single article of tobacco amounts to seven or eight hundred thousand. How does this come back? not in money; for the Virginians are poor to a proverb, in money. They anticipate their crops: they spend faster than they earn: they are ever in debt. Their rich exports return in eatables, in drinkables, and in wearables. All these are subject to the impost. In Maryland, their exports are as great in proportion as those in Virginia. The imports and exports of the southern states are quite as great in proportion as those of the northern. Where then exists this partiality, which has been objected? It exists no where, but in the uninformed mind.

But there is one objection, *mr. president*, which is broad enough to cover the whole subject. Says the objector, congress ought not to have power to raise any money at all. Why? Because they have the power of the sword! and if we give them the power of the purse, they are despotic. But I ask, *fir*, if ever there were a government without the power of the sword and the purse? This is not a new-coined phrase; but it is misapplied: it belongs to quite another subject. It was brought into use in Great-Britain, where they have a king vested with hereditary power. Here, say they, it is dangerous to place the power of the sword and the purse in the hands of one man who claims an authority, independent of the people: therefore we will have a parliament. But the king and parliament together, the supreme power of the nation, they have the sword and the purse. And they must have both: else how could the country be defended? for the sword, without the purse is of no effect: it is a sword in the scabbard. But does it follow, because

it is dangerous to give the power of the sword and purse to a hereditary prince, who is independent of the people, that therefore it is dangerous to give it to the parliament—to congress, which is your parliament—to men appointed by yourselves, and dependent upon yourselves? This argument amounts to this, you must cut a man in two in the middle, to prevent his hurting himself.

But, says the honourable objector, if congress levy money, they must legislate. I admit it. Two legislative powers, says he, cannot exist together in the same place. I ask, why can they not? It is not enough, to say, they cannot. I wish for some reason. I grant that both cannot legislate upon the same object, at the same time, and carry into effect laws which are contrary to each other. But the constitution excludes every thing of this kind. Each legislature has its province; their limits may be distinguished. If they will run foul of each other, if they will be trying who has the hardest head, it cannot be helped. The road is broad enough; but if two men will juggle each other, the fault is not in the road. Two several legislatures have in fact existed, and acted at the same time in the same territory. It is in vain to say they cannot exist, when they actually have done it. In the time of the war, we had an army. Who made the laws for the army? By whose authority were offenders tried and executed? Congress. By their authority a man was taken, tried, condemned, and hanged in this very city. He belonged to the army: he was a proper subject of military law; he deserted to the enemy; he deserved his fate. Wherever the army was, in whatever state, there congress had complete legislative, judicial and executive power. This very spot where we now are, is a city. It has complete legislative, judicial,



and executive powers : It is a complete state in miniature. Yet it breeds no confusion, it makes no schism. The city has not eaten up the state, nor the state the city. But if there be a new city, if it have not had time to unfold its principles, I will instance the city of New-York, which is and long has been, an important part of that state; it has been found beneficial; its powers and privileges have not clashed with the state. The city of London contains three or four times as many inhabitants as the whole state of Connecticut. It has extensive powers of government : and yet it makes no interference with the general government of the kingdom. This constitution defines the extent of the powers of the general government. If the general legislature should at any time overleap their limits, the judicial department is a constitutional check. If the united states go beyond their powers, if they make a law which the constitution does not authorize, it is void; and the judicial power, the national judges, who, to secure their impartiality, are to be made independent, will declare it to be void. On the other hand, if the states go beyond their limits, if they make a law which is an usurpation upon the general government, the law is void; and upright independent judges will declare it to be so. Still, however, if the united states and the individual states will quarrel, if they want to fight, they may do it, and no frame of government can possibly prevent it. It is sufficient for this constitution, that, so far from laying them under a necessity of contending, it provides every reasonable check against it. But perhaps at some time or other, there will be a contest, the states may rise against the general government. If this do take place, if all the states combine, if all oppose, the whole will not eat up the mem-

bers, but the measure which is opposed to the sense of the people, will prove abortive. In republics, it is a fundamental principle, that the majority govern, and that the minority comply with the general voice. How contrary then to republican principles, how humiliating is our present situation! A single state can rise up, and put a *veto* upon the most important public measures. We have seen this actually take place. A single state has controuled the general voice of the union; a minority, a very small minority has governed us. So far is this from being consistent with republican principles, that it is in effect the worst species of monarchy.

Hence we see how necessary for the union is a coercive principle. No man pretends the contrary: we all see and feel this necessity. The only question is, shall it be a coercion of law, or a coercion of arms? There is no other possible alternative. Where will those, who oppose a coercion of law, come out? where will they end? A necessary consequence of their principles is a war of the states one against another. I am for coercion by law—that coercion which acts only upon delinquent individuals. This constitution does not attempt to coerce sovereign bodies, states in their political capacity. No coercion is applicable to such bodies, but that of an armed force. If we should attempt to execute the laws of the union by sending an armed force against a delinquent state, it would involve the good and bad, the innocent and guilty, in the same calamity.

But this legal coercion singles out the guilty individual, and punishes him for breaking the laws of the union. All men will see the reasonableness of this; they will acquiesce, and say, let the guilty suffer.

How have the morals of the people

been depraved for the want of an efficient government, which might establish justice and righteousness—For the want of this, iniquity has come in upon us, like an overflowing flood. If we wish to prevent this alarming evil—if we wish to protect the good citizen in his right—we must lift up the standard of justice; we must establish a national government, to be enforced by the equal decisions of law, and the peaceable arm of the magistrate.



*Speech of the rev. mr. Shute in the convention of Massachusetts, on the article of the new federal constitution, which provides, that no religious test shall ever be required as a qualification to an office.*

*Mr. President,*

**T**O object to the latter part of the paragraph under consideration, which excludes a religious test, is, I am sensible, very popular; for the most of men, some how, are rigidly tenacious of their own sentiments in religion, and disposed to impose them upon others, as the standard of truth. If in my sentiments, upon the point in view, I should differ from some in this honourable body, I only wish for the exercise of that candour, with which true religion is adapted to inspire the honest and well-disposed mind.

To establish a religious test, as a qualification for an office in the proposed federal constitution, it appears to me, sir, would be attended with injurious consequences to some individuals, and with no advantage to the whole.

By the injurious consequences to individuals, I mean, that some, who, in every other respect, are qualified to fill some important post in government, would be excluded by their not

being able to stand the religious test, which I take to be a privation of part of their civil rights.

Nor is there to me any conceivable advantage, sir, that would result to the whole, from such a test. Unprincipled and dishonest men will not hesitate to subscribe to any thing, which may open the way for their advancement, and put them in a situation the better to execute their base and iniquitous designs. Honest men, alone, therefore, however well qualified to serve the public, would be excluded by it, and their country be deprived of the benefit of their abilities.

In this great and extensive empire, there is and will be a great variety of sentiments in religion among its inhabitants. Upon a plan of a religious test, the question, I think, must be, who shall be excluded from national trust? Whatever answer bigotry might suggest—the dictates of candour and equity, I conceive, will be “none.”

Far from limiting my charity and confidence to men of my own denomination, in religion, I suppose, and I believe, sir, there are worthy characters among men of every other denomination—among the quakers—the baptists, the church of England—the papists—and even among those who have no other guide, in the way to virtue and heaven, than the dictates of natural religion.

I must, therefore, think, sir, that the proposed plan of government, in this particular, is wisely constructed; that as all have an equal claim to the blessings of the government under which they live, and which they support, so none shall be excluded from them by being of any particular denomination in religion.

The presumption is, that the eyes of the people will be upon the faithful in the land; and from a regard to their own safety, will choose for their

rulers, men of known abilities—of known probity—of good moral characters. The apostle Peter tells us, that "God is no respecter of persons, but in every nation, he that feareth him, and worketh righteousness, is acceptable to him:" and I know of no reason, why men of such a character in a community, of whatever denomination in religion, *ceteris paribus*, with suitable qualifications, should not be acceptable to the people, and why they may not be employed by them, with safety and advantage in the important offices of government. The exclusion of a religious test in the proposed constitution, therefore, clearly appears to me, sir, to be in favour of its adoption.



*Speech of mr. Symmes, in the convention of Massachusetts, on that section of the new federal constitution, which vests congress with power to impose taxes—Delivered January 22, 1788.*

*Mr. President,*

**I**N such an assembly as this, and on a subject, that puzzles the oldest politicians, a young man, sir, will scarcely dare to think for himself; but if he venture to speak, the effort must certainly be greater.—This convention is the first representative body, in which I have been honoured with a seat; and men will not wonder, that a scene at once so new, and so august, should confuse, oppress and almost disqualify me to proceed.

Sir, I wish to bespeak the candour of the convention—that candour which, I know, I need but ask, to have it extended to me, while I make a few indigested observations on the paragraph now in debate. I have hitherto attended with diligence, but no great anxiety, to the

reasoning of the ablest partizans on both sides of the question. Indeed I could have wished for a more effectual, and (if I may term it so) a more feeling representation in the lower house, and for a representation of the people in the senate.—I have been and still am desirous of a rotation in office, to prevent the final perpetuation of power in the same men.—And I have not been able clearly to see why the place and manner of holding elections should be in the disposal of congress.

But, sir, in my humble opinion, these things are comparatively the lesser things of the law.—They doubtless have their influence in the grand effect, and so are essential to the system. But sir, I view the section to which we have at length arrived, as the cement of the fabric, and this clause as the key-stone, or (if I may apply the metaphor) the magic talisman on which the fate of it depends.

Allow me, sir, to recal to your remembrance, that yesterday when the states were in doubt about granting to congress a five per cent. impost, and the simple power of regulating trade—the time when so delicate was the patriotic mind, that power was to be transferred with a reluctant, with a sparing hand—and the most obvious utility could scarcely extort it from the people. It appears to me of some importance, to consider this matter, and to demand complete satisfaction upon the question, why an unlimited power in the affair of taxation, is so soon required? is our situation so vastly different, that the powers, so lately sufficient, are now but the dust of the balance? I observe, sir, that many men, who, within a few years past, were strenuous opposers of an augmentation of the power of congress, are now the warmest advocates of a power, so large as not to

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admit of a comparison with those which they opposed. Cannot some of them state their reasons then, and their reasons now, that we may judge of their consistency—or shall we be left to suppose that the opinions of politicians, like those of the multitude, vibrate from one extreme to the other, and that we have no men among us, to whom we can intrust the philosophic task of pointing out the golden mean?

At present, congress have no power to lay taxes, &c. nor even to compel a compliance with their requisitions. May we not suppose, that the members of the great convention, had severely felt the impotency of congress, while they were in it, and therefore were rather too keenly set for an effectual increase of power? That the difficulties they had encountered, in obtaining decent requisitions, had wrought in them a degree of impatience, which prompted them to demand the purse-strings of the nation, as if we were insolvent, and the proposed congress were to compound with our creditors?—Whence, sir, can this great, I had almost said, this bold demand, have originated? Will it be said, that it is but a consistent and necessary part of the general system? I shall not deny these gentlemen the praise of inventing a system completely consistent with itself, and pretty free from contradiction—but I would ask, I shall expect to be answered, how a system can be necessary for us, of which this is a consistent and necessary part?

But, sir, to the paragraph in hand—congress, &c.,

Here, sir, (however kindly congress may be pleased to deal with us) is a very good and valid conveyance of all the property in the united states—to certain uses, indeed, but those uses capable of any construction, the trustee may think pro-

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per to make. This body is not amenable to any tribunal, and therefore, this congress can do no wrong.—It will not be denied, that they may tax us to any extent, but some gentlemen are fond of arguing that this body never will do any thing, but what is for the common good. Let us consider that matter.

Faction, sir, is the vehicle of all transactions in public bodies, and when gentlemen know this so well, I am rather surprized to hear them so sanguine in this respect. The prevalent faction is the body—these gentlemen, therefore, must mean that the prevalent faction will always be right, and that the true patriots will always outnumber the men of low and selfish principles. From this it would follow, that no public measure was ever wrong, because it must have been passed by the majority, and so, I grant no power ever was, or will be abused.—In short, we know that all governments have degenerated, and consequently have abused the powers reposed in them: and why we should imagine better of the proposed congress, than of myriads of public bodies who have gone before them, I cannot at present conceive.

Sir, we ought (I speak it with submission) to consider that what we now grant from certain motives well grounded at present, will be exacted of posterity as a prerogative when we are not alive, to testify the tacit conditions of the grant—that the wisdom of this age will then be pleaded by those in power—and that the cession we are now about to make, will be actually clothed with the venerable habit of ancestral sanction.

Therefore, sir, I humbly presume we ought not to take advantage of our situation in point of time, so as to bind posterity to be obedient to laws, they may very possibly dis-

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approve, nor expose them to a rebellion, which at that period will very probably end only in their farther subjugation.

The paragraph in question, is an absolute decree of the people. The congress shall have power—it does not say that they shall exercise it—but our necessities say, they must, and the experience of ages says, that they will, and finally, when the expences of the nation, by their ambition, are grown enormous, that they will oppress the subject. For, sir, they may lay taxes, duties, imposts and excises!—One would suppose that the convention, sir, were not at all afraid to multiply words when any thing was to be got by it. By another clause, all imposts and duties, on exports and imports, wherever laid, go into the federal chest—so that congress may not only lay imposts and excises, but all imposts and duties that are laid on imports and exports, by any state, shall be a part of the national revenue—and besides, congress may lay an impost on the produce and manufactures of the country, which are consumed at home. And all these shall be equal through the states. Here, sir, I raise two objections—1st. that congress should have this power. It is a universal, unbounded permission—and as such, I think, no free people ought ever to consent to it, especially in so important a matter as that of property. I will not descend, sir, to an abuse of this future congress, until it exists, nor then, until it misbehaves, nor then, unless I dare. But I think that some certain revenue, amply adequate to all necessary purposes, upon a peace establishment, but certain and definite, would have been better, and the collection of it might have been guaranteed by every state to every other. We should then have known to what

we were about to subscribe, and should have cheerfully granted it. But now, we may indeed grant, but who can cheerfully grant—he knows not what?

Again, sir, I object to the equality of these duties through the states. It matters not with me, in the present argument, which of them will suffer by this proportion.—Some probably will, as the consumption of dutied articles will not, if we may judge from experience, be uniform in all.

But, say some, with whom I have conversed, it was for this reason that taxes were provided, that by their assistance the defect of duties in some states ought to be supplied. Now then, let us suppose that the duties are so laid, that if every state paid in proportion, to that which paid most, the duties alone would supply a frugal treasury. Some states will pay but half their proportion and some will scarcely pay any thing. But those in general who pay the least duty, viz. the inland states, are least of all able to pay a land-tax, and therefore, do not see but this tax would operate most against those who are least able to pay it.

I humbly submit it, sir, whether if each state had its proportion of some certain gross sum assigned according to its numbers, and a power was given to congress to collect the same, in case of default in the state, this would not have been a safer constitution?—For, sir, I also disapprove of the power to collect, which is here vested in congress—it is a power, sir, to burden us with a standing army of ravenous collectors—harpies perhaps from another state, but who, however, were never known to have bowels for any purpose, but to fatten on the life-blood of the people. In one age or two this will be the case, and when the

Congress shall become tyrannical, these vultures, their servants, will be the tyrants of the village, by whose presents all freedom of speech and action will be taken away.

Sir, I shall be told that these are imaginary evils—but I hold to this maxim, that power was never given of this kind especially) but it was exercised—and never exercised, but it was finally abused. We must not be misled with handsome probabilities, but we must be assured that we are in no danger, and that this Congress would not distress us, if they were ever so much disposed.

To pay the debts, &c.

These words, sir, I confess are an argument to the page: and very musical words—But they are too general to be understood as any kind of limitations of the power of Congress, and not very easy to be understood at all. When Congress have the purse, they are not confined to rigid æconomy, and the word debts here, is not confined to debts already contracted, or indeed, if it were, the term “general welfare” might be applied to any expenditure whatever. Or if it could not, who shall be to gainsay the proceedings of this body at a future day, when according to the course of nature it shall be too firmly fixed in the saddle, to be overthrown by any thing but a general insurrection; an event not to be expected, considering the extent of this continent: and if it were to be expected, a sufficient reason in itself for rejecting this or any constitution that would tend to produce it.

This clause, sir, is the very life of the constitution. And I hope the universality of it may be singular; but it may be easily seen that it tends to produce in time, as universal powers in every other respect. As the poverty of individuals, prevents luxury, so the poverty

of public bodies whether sole or aggregate, prevents tyranny. A nation cannot, perhaps, do a more politic thing than to supply the purse of its sovereign with that parsimony, which results from a sense of the labour it costs, and so to compel him to comply with the genius of his people, and conform to their situation, whether he will or not. How different will be our conduct, if we give the entire disposal of our property to a body, as yet almost unknown in theory, in practice quite, heterogeneous in its composition, and whose maxims are yet entirely unknown.

Sir, I wish the gentlemen, who so ably advocate this instrument, would enlarge upon this formidable clause, and I most sincerely wish that the effect of their reasoning, may be my conviction. For, sir, I will not dishonour my constituents, by supposing that they expect me to resist that which is irresistible—the force of reason. No, sir, my constituents ardently wish for a firm, efficient, continental government, but fear the operation of this which is now proposed. Let them be convinced that their fears are groundless, and I venture to declare, in their name, that no town in the commonwealth, will sooner approve the form, or be better subjects under it.



*Speech of the rev. mr. Thacher in the convention of Massachusetts, on the merits of the new constitution.—Delivered February 4. 1788.*

*Mr. President,*  
WHILE the different paragraphs of the proposed constitution have been debated, I have not troubled this honourable convention with any observations of my own upon the subject. Conscious that there were men of deeper political

knowledge and of better abilities than myself, I conceived it my duty to attend to their instruction, that having heard with attention, I might decide with integrity. I view the object before us, as of greater moment than ever was known within the memory of man, or that hath been recorded by the historic page. Were we, *mr. President*, this day to decide on the lives and fortunes of an hundred of the best citizens of this commonwealth, solemn would that province be; but much more interesting is the result of the present question; for in this case not a single city—not a single state—but a continent, wide and extended, may be happy or wretched according to our judgment; and posterity will either bless us for laying the foundation of a wise and equal government, or curse us for neglecting their important interests, and for forging chains for them, when we disdained to wear them ourselves. Having therefore, as I trust, a full view of the magnitude of the object, I hope I shall be pardoned, if I offer my sentiments with freedom. I am sensible of the prejudices that subsist against the profession to which I belong; but yet, entrusted by my constituents with so solemn a charge, I think they have a right to expect from me the reasons why I shall finally consent to ratify the proposed form of government.

There are three circumstances which deserve notice in considering the subject. These are, the necessity that all the states have of some general bond of union—the checks upon the government in the form offered for our adoption—and lastly, the particular disadvantages to which we shall be exposed, if we reject it.

With respect to the first of these considerations, I trust there is no man in his senses, but what will own, that the whole country hath largely felt the want of energy in the general go-

vernment. While we were at war with Britain, common danger produced a common union; but the cause being removed, the effect ceased also. Nay, I do not know but we may safely add, that that union produced by uniform danger, was still made grater to general and national purposes. This commonwealth, with a generous disinterested regard to the good of the whole, appeared foremost in the day of danger. At the conclusion of the late war, two-thirds of the continental army were from Massachusetts—their provision and their clothing proceeded also in a great measure from our extraordinary exertions. The people did this in the fullest confidence, that, when peace and tranquillity were restored, from the honour and justice of our sister states, our supernumerary expenses would be abundantly repaid. But, alas! how much have our expectations been blasted? The congress, though willing, yet had no power to do us justice. The small district of Rhode Island, put a negative upon the collected wisdom of the continent. This was done not by those who are the patrons of their present infamous system of paper currency—but by that part of them who now call themselves honest men. We have made exertions to stop the importation of foreign luxuries. Our brethren in the neighbouring states, from the view of local advantages, have taken occasion to distress us upon the same account. They have encouraged, where we have prohibited; and by those iniquitous measures, have made our virtue and public spirit, an additional cause of our calamity. Nor have our calamities been local—they have reached to all parts of the united states, and have produced dissipation and indigence at home, and contempt in foreign countries. On the one hand, the haughty Spaniard has deprived us of the navigation of the

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ever Mississippi—on the other, the British nation are, by extravagant duties, ruining our fishery. Our sailors are enslaved by the pirates of Algiers: our credit is reduced to so low an ebb, that American faith is a proverbial expression for perfidy. The Punic faith was among the Romans. Thus have we suffered every species of infamy abroad, and poverty at home. Such, in fact, have been our calamities, as are enough to convince the most sceptical among us, of the want of a general government, in which energy and vigour should be established, and at the same time, the rights and liberties of the people preserved.

A constitution hath been presented to us, which was composed and planned by men, who, in the council and field, have, in the most conspicuous offices, served their country in the late war. It comes authenticated by a man, who, without any pecuniary reward, commanded our army, and who retired to a private station with more pleasure than he left it. I do not say, mr. President, that this proves the form of government to be perfect, or that it is an unanswerable argument that we should adopt it. But it is a reason why we should examine it with care and caution, and that we should not rashly and precipitately to reject it.

It will be objected, "that there are more powers granted than are necessary, and that it tends to destroy the local governments of the particular states, and that it will eventually end either in aristocracy or despotism." To answer the objection, two considerations should be taken into view—the situation of the continent, when a constitution was formed—and the impossibility of preserving a perfect sovereignty in the states, after necessary powers were ceded to a supreme council of the whole. As to the first, let us candidly examine the

state of these republics, from New Hampshire to Georgia, and see how far vigour and energy were required. During the session of the late convention, Massachusetts was on the point of civil war. In Vermont and New Hampshire, a great disaffection to their several governments prevailed among the people. New York absolutely refused complying with the requisitions of congress. In Virginia, armed men endeavoured to stop the courts of justice: in South Carolina, creditors by law were obliged to receive barren and useless land, for contracts made in silver and gold. I pass over the instance of Rhode Island; their conduct was notorious. In some states, laws were made directly against the treaty of peace: in others, statutes were enacted, which clashed directly against any federal union. New lands sufficient to discharge a great part of the continental debt, intruded upon by needy adventurers: our frontier settlements exposed to the ravages of the Indians, while the several states were unable or unwilling to relieve their distress. Lay all these circumstances together, and you will find some apology for those gentlemen, who framed this constitution: I trust you may charitably assign other motives for their conduct, than a design to enslave their country, and to parcel out for themselves, its honours and emoluments.

The second consideration deserves its weight. Can the local governments be sufficient to protect us from foreign enemies, or from disaffection at home? Thirteen states are formed already. The same number are probably to be formed from the lands not yet cultivated. Of the former, yet smaller divisions may be made. The province of Maine hath desired a separation; in time, a separation may take place. Who knows but that the same may happen with respect to the old colony of Plymouth.



Now conceive the number of states increased—their boundaries lessened,—their interests clashing! How easy a prey to a foreign power! How liable to war among themselves! Let these arguments be weighed; and, I dare say, sir, there is no man but what would conceive, that a coercive power over the whole, searching through all parts of the system, is necessary to the preservation and happiness of the whole people.

But I readily grant all these reasons are not sufficient to surrender up the essential liberties of the people. But do we surrender them? This constitution hath been compared both by its defenders and opponents to the British government: in my view of it, there is a great difference. In Britain, the government is said to consist of the three forms, monarchy, aristocracy, and democracy; but in fact, is but a few removes from absolute despotism. In the crown is vested the power of adding at pleasure, to the second branch—of nominating to all the places of honour and emolument—of purchasing, by its immense revenues, the suffrages of the house of commons—the voice of the people is but the echo of the king, and their boasted privileges lie entirely at his mercy. In this proposed form, each branch of power is derived either mediately or directly from the people. The lower house are elected directly by those persons who are qualified to vote for the representatives of the state; and at the expiration of two years, become private men, unless their past conduct entitles them to a future election. The senate are elected by the legislatures of the different states, and represent their sovereignty. These powers are a check on each other, and can never be made either dependent on one another, or independent of the people. The president is chosen by electors, who are appointed by the people. The high

courts of justice arise from the president and senate; but yet the ministers of them can be removed only upon bad behaviour. The independence of judges is one of the most favourable circumstances to public liberty; for when they become the slaves of a venal corrupt court, and the hirelings of tyranny, all property is precarious, and personal security at an end—a man may be stripped of all his possessions, and murdered with the forms of law.

Thus it appears that all parts of this system arise ultimately from the people, and are still independent of each other. There are other restraints, which, though not directly named in this constitution, yet are evidently discerned by every man of common observation. These are the governments of the several states, and the spirit of liberty in the people. Are we wronged or injured? Our immediate representatives are those to whom we ought to apply—their power and influence will still be great. But should any servants of the people, however eminent their stations, attempt to enslave them, from the spirit of liberty such opposition would arise, as would bring them to the scaffold. But admitting that there are dangers in accepting this general government; yet are there not greater hazards in rejecting it? Such is, mr. President, the state of our affairs, that it is not in our power to carve for ourselves. To avoid the greatest, and to choose the least of two evils, is all that we can do. What then will be the probable effect, if this constitution be rejected? Have we not reason to fear new commotions in this commonwealth? If they arise, can we be always certain that we shall be furnished with a citizen, who, though possessed of extensive influence and the greatest abilities, will make no other use of them, than to

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quiet the tumult of the people; to prevent civil war, and to restore the usual course of law and justice? Are we not in danger from other states, when their interests or prejudices are opposite to ours? And in some such scenes of hostile contention, will not some Sylla drench the land in blood, or some Cromwell or Cæsar lay our liberties prostrate at his feet? Will not foreign nations attack us in our weak, divided condition, and once more render us provinces to some potentate of Europe? Or will those powers, to whom we are indebted, be quiet? They certainly will not. They are now waiting for our decision; but when they once see that our union is broken, and that we are determined to neglect them, they will issue out letters of marque and reprisal, and entirely destroy our commerce.

If this system is broken up, will thirteen or even nine states ever agree to another? And will providence smile on a people, who despise the privileges put into their hands, and who neglect the plainest principles of justice and honesty? After all, I by no means pretend, that there is complete perfection in this proposed constitution—like all other human productions, it hath its faults—provision is made for an amendment, whenever from practice it is found oppressive. I would add the proposals which his excellency has condescended to lay before this honourable convention, respecting future alterations, and real improvements for the better, and we have no reason to doubt, but they will be equally attended to by other states, as they lead to common security and preferment.

Some of the gentlemen in the opposition have quoted ancient history, and applied it to the question now under debate. They have shewn us the danger which arises from vesting

magistrates with too much power. I wish they had gone on to tell the whole truth. They might have shewn how nearly licentiousness and tyranny are allied—that they who will not be governed by reason, must submit to force—that demagogues, in all free governments, have first held out an idea of extreme liberty, and have seized on the rights of the people under the mask of patriotism. They might have shewn us a republic, in which wisdom, virtue, and order, were qualities, for which a man was liable to banishment; and on the other hand, boasting, sedition, and falsehood, the sure road to honour and promotion.

I am sorry that it hath been hinted by some gentlemen in this house, as if there were a combination of the rich, the learned, and those of liberal professions, to establish and support an arbitrary form of government—Far be it from me to retort, so uncharitable, and unchristian a suggestion. I doubt not the gentlemen who are of different sentiments from myself, are actuated by the purest motives. Some of them I have the pleasure to be particularly acquainted with, and can safely pronounce them to be men of virtue and honour—They have, no doubt, a laudable concern for the liberties of their country; but I would beg them to remember, that extreme jealousy and suspicion may be as fatal to freedom as security and negligence.

With respect to myself, I am conscious of no motives which guide me in this great and solemn question, but what I could justify to my own heart, both on the bed of death, and before the tribunal of Omnipotence. I AM A POOR MAN—I HAVE THE FEELINGS OF A POOR MAN. If there are honours and emoluments in this proposed constitution, I shall,

by my profession and circumstances in life, be for ever excluded from them. It is my wish and prayer, that in the solemn verdict we are soon to pronounce, we may be directed to that measure, which will be for the glory, freedom and felicity of my country.

I shall trouble this house no further, than wishing sincerely, that the people, in this their day, may know the things which belong to their peace.



*Speech of mr. Barrel, in the convention of Massachusetts, on the new constitution, and the necessity of amendments thereto—Delivered February, 5, 1788.*

*Mr. President,*

**A**WED in the presence of this august assembly—conscious of my inability to express my mind fully on this important occasion—and sensible how little I must appear in the eyes of those giants in rhetoric, who have exhibited such a pompous display of declamation—without any of those talents calculated to draw attention—without the pleasing eloquence of Cicero, or the blaze of Demosthenian oratory, I rise, sir, to discharge my duty to my constituents, who, I know, expect something more from me than merely a silent vote. With no pretensions to talents above the simple language adapted to the line of my calling, the plain husbandman, I hope the gentlemen who compose this honourable body, will fully understand me when I attempt to speak my mind of the federal constitution as it now stands.—I wish, sir, to give my voice for its amendment before it can be salutary for our acceptance—because, sir, notwithstanding the Wilsonian oratory, and all the learned arguments I have

seen written—notwithstanding the many laboured speeches I have heard in its defence, and after the best investigation I am able to give this subject, I fear it is pregnant with baneful effects, although I may not live to feel them.

Because, sir, as it now stands congress will be vested with more extensive powers than ever Great Britain exercised over us—too great, in my opinion, to entrust with any class of men, let their talents or virtues be ever so conspicuous, even though composed of such exalted amiable characters as the great Washington: for while we consider them as men of like passions, the same spontaneous, inherent thirst for power with ourselves—great and good as they may be, when they enter upon this all-important charge, what security can we have that they will continue so? And, sir, were we sure they would continue to be faithful guardians of our liberties, and prevent any infringement on the privileges of the people—what assurance can we have that such men will always hold the reins of government? that their successors will be such? History tells us Rome was happy under Augustus—though wretched under Nero, who could have no greater power than Augustus—and yet this same Nero when young in government, could shed tears on signing a death warrant, though afterwards become callous to the tender feelings of humanity, as to behold with pleasure, Rome in flames.

Because, sir, I think that six years are too long a term for any set of men to be at the helm of government: for in that time they may get so firmly rooted, and their influence be so great, as to continue themselves for life.

Because, sir, I am not certain we are able to support the additional

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Because, sir, I think a continental collector will not be so likely to do us justice in collecting the taxes, as collectors of our own.

Because, sir, I think a frame of government, on which all laws are founded; should be so simple and explicit, that the most illiterate may understand it; whereas this appears to me so obscure and ambiguous, that the most capacious mind cannot fully comprehend it.

Because, sir, the duties of excise and impost and to be taxed besides, appear too great a sacrifice: and when we have given them up, what shall we have to pay our own debts but a dry tax?

Because, sir, I do not think this will produce the efficient government we are in pursuit of.

Because, sir, they will fix their own salaries without allowing any controul.

And because, sir, I think such a government may be disagreeable to men with the high notions of liberty, we Americans have.

And, sir, I could wish this constitution had not been in some parts of the continent hurried on like the driving of Jehu, very furiously: for such important transactions should be without force, and with cool deliberation. These, sir, were my objections, and those of my constituents, as they occur to my memory; some of which have been removed in the course of the debates, by the ingenious reasonings of the speakers. I wish I could say the whole were. But after all, there are some yet remain on my mind—enough to convince me, that excellent as this system is, in some respects it needs alterations; therefore I think it becomes us as wise men—as the faithful guardians of the people's rights—and as we wish well to posterity, to propose such amendments, as will secure to

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us and ours that liberty, without which life is a burden.

Thus, sir, have I ventured to deliver sentiments in which are involved those of my constituents on this important subject, cautiously avoiding every thing like metaphysical reasoning; lest I should invade the prerogative of those respectable gentlemen of the law who have so copiously displayed their talents on this occasion—But, sir, although you may perceive, by what I have said, that this is not in my view, the most perfect system I could wish—yet as I am possessed with an assurance, that the proposed amendments will take place—as I dread the fatal effects of anarchy—as I am convinced the confederation is essentially deficient, and that, it will be more difficult to amend that than to reform this—and as I think this constitution, with all its imperfections, is excellent, compared with that—and that it is the best constitution we can now obtain—as the greatest good I can do my country at present, I could wish for an adjournment, that I might have an opportunity to lay it before my constituents, with the arguments which have been used in the debates, which have eased my mind, and, I trust, would have the same effect on theirs, so as heartily to join me in ratifying the same: but, sir, if I cannot be indulged in this desirable object, I am almost tempted to risque their displeasure, and adopt it without their consent.

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*Speech of the rev. mr. Stillman, in the convention of Massachusetts, on the general question, to ratify the new federal constitution, with the amendments proposed by his excellency governor Hancock.—Delivered February 6, 1788.*

Mr. President,

I Rise, with deference to gentlemen of superior abilities, to give



my opinion on the present all-important national question, and the reasons on which it is founded—an opinion, the result of the most serious deliberation.

Upon entering the convention, it was my full determination, to keep my mind cool, and open to conviction, so that I might profit by the discussion of this interesting subject. And now sir, I return my sincerest thanks to the gentlemen who have taken opposite sides in the course of the debates. From both I have received advantage: from one class, in bringing forward a great variety of objections; from the other class in answering them. Whatever my previous opinion was, I now stand on firmer ground than ever, respecting the proposed constitution.

But my present situation, sir, is to me extremely affecting. To be called by the voice of my fellow-citizens, to give my vote for or against a constitution of government, that will involve the happiness or misery of millions of my countrymen, is of so solemn a nature, as to have occasioned the most painful anxiety.

I have no interest to influence me to accept this constitution of government, distinct from the interest of my countrymen at large. We are all embarked in one bottom, and must sink or swim together.

Besides, sir, heaven has fixed me in a line of duty, that precludes every prospect of the honours and the emoluments of office. Let who will govern, I must obey. Nor would I exchange the pulpit, for the highest honours my country can confer. I too have personal liberties to secure, as dear to me as any gentleman in the convention, and as numerous a family, probably, to engage my attention. Besides which, I stand here, with my very honourable colleagues, as a representative of the citizens of this great metropolis,

who have been pleased to honour me with their confidence: an honour, in my view, unspeakably greater than a peerage or a pension.

The absolute deficiency of the articles of confederation, is allowed by all. Nor have I seen any publication that places this subject in so convincing a point of light, as a letter written by his excellency governor Randolph, which has appeared in several of our newspapers; whom I the rather introduce on this occasion, because he was a delegate in the late federal convention—refused to sign the constitution before us—and has been twice mentioned by gentlemen in opposition. His candour, apparent in the letter referred to, does him honour, and merits the esteem of every candid mind. I declare, sir, I revere his character, while I differ from him in opinion.

“Before my departure for the (federal) convention, says he, I believed, that the confederation was not so eminently defective as it had been supposed. But after I had entered into a free conversation with those who were best informed of the condition and interest of each state—after I had compared the intelligence derived from them, with the properties that ought to characterize the government of our union—I became persuaded, that the confederation was destitute of every energy which a constitution of the united states ought to possess.” And after he had in a most masterly manner proved its inefficiency, he adds: “But now, sir, permit me to declare, that in my humble judgment, the powers, by which alone the blessings of a general government can be accomplished, cannot be interwoven in the confederation, without a change of its very essence; or, in other words, that the confederation must be thrown aside.”

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Having stated his objections to it, he proceeds thus, "My inference from these facts and principles, is, that the new powers must be deposited in a new body, growing out of the consolidation of the union as far as the circumstances of the states will allow." Thus fully and candidly does this gentleman insist on the absolute necessity of a new constitution of general government, at the very time that he objected to the present form; and concludes his letter with these memorable words, which I most heartily wish may make a deep impression on the mind of every gentleman in the opposition—"I hesitate not to say, that the most fervent prayer of my soul is, the establishment of a firm energetic government; that the most inveterate curse which can befall us, is, a dissolution of the union; and that the present moment, if suffered to pass away unemployed can never be recalled.—I shall therefore cling to the union as the rock of our salvation, and urge Virginia to finish the salutary work which she hath begun.—And if, after our best efforts for amendments, they cannot be obtained, I scruple not to declare, (notwithstanding the advantage the declaration may give to the enemies of my proposal) that I will, as an individual citizen, accept the constitution."

—I pause, sir—that every gentleman present may have time to indulge those feelings, which these excellent expressions must occasion. May that God, who has the hearts of all men under his controul, inspire every member of this convention with a similar disposition! Then shall we lay aside every opposite interest, and unite, as a band of brothers, in the ratification of this constitution of national government.

Then, sir, will your terms of con-

ciliation be attended to with gratitude and candour Your excellency depressed with bodily infirmity, and exercised with severe pain, have stepped forth at the critical moment, and from the benevolence of your heart, presented us with a number of proposed amendments, in order, if possible, to quiet the minds of the gentlemen in opposition, and bring us together in amity and peace—amendments which you, sir, declare you do not think necessary, except for the sole purpose of uniting us in a common and most important cause.

But what has been the consequence of your excellency's conciliatory propositions?—Jealousy, jealousy, sir, that there was a snake in the grass; a secret intention to deceive! I shudder at the ungenerous suggestion; nor will I dwell a moment longer on the distressing idea. Be banished for ever the groundless suspicion of him, whose name stands foremost in the list of American patriots!—Let love and harmony prevail.

The important hour is just arrived, when the die will be cast, that will in a great measure determine the fate of this commonwealth, and have a mighty influence on the general interest of the union. For from the best information I have been able to collect from gentleman of observation, and of undoubted veracity, in different states, there is the greatest reason to fear, that the rejection of this constitution will be followed with anarchy and confusion.

The convention, I doubt not, will bear with me while I take a general view of the constitution before us. From all that has been said on the subject of biennial elections, it is my decided opinion, that two years in the general government will not be in proportion to one year in the local governments; because in the former, the objects of government will be great, numerous, and extensive; in

the latter, comparatively small and limited. The general government involves all the states now in the union—all such as shall in future accede to it—all foreign nations with whom we now are or hereafter shall be in alliance—an extensive and growing commerce—war and peace &c. &c.

It has been said, that this is a stride toward septennial elections, or perpetuity in office. I answer, the constitution itself is to be the rule. That declares, that “representatives shall be chosen every second year by the people of the several states.” Elections, then, of representatives, must be every second year; nor can they be otherwise, without a direct violation of the constitution. The men who shall be wicked enough to do this, would not be restrained, had the elections been annual; it being equally easy to violate the constitution in the one case as in the other. Elections indeed, ought to be so frequent, as to make the representatives feel that they are dependent on, and amenable to the people. The difference then between annual and biennial elections, is small; and either will answer the end just mentioned.

The powers, which are granted to congress by this instrument, are great and extensive: but, fir, they are defined and limited, and in my judgment, sufficiently checked; which I shall prove, before I sit down. These powers have been the subject of long and ingenious debate. But the arguments that have been made use of against delegating these powers to the general government, prove too much, being applicable to all delegated power; I mean the possible abuse of it. The very term, government, implies a supreme, controuling power somewhere—a power to coerce, whenever coercion shall be necessary: of which necessity, government must be the judge. This is admitted; if

so, the power may be abused. Every gentleman must confess, that we cannot give a power to do good, but it may be abused to do evil. If a merchant commit the care of a ship and cargo to the master; he may dispose of both, and appropriate the money to his own use. If we raise a body of men, and put arms into their hands for our defence; they may turn them against us, and destroy us. All these things prove, however, that in order to guard as much as possible, against the abuse of those powers we delegate to government, there ought to be sufficient checks to them: every precaution should to be used, to secure the liberties of the people on the one hand, and not render government inefficient on the other. I believe, fir, such security is provided in this constitution: if not, no consideration shall induce me to give my voice in its favour. But the people are secured by the following circumstances:

1st. All the offices in congress are elective, not hereditary. The president and senators are to be chosen by the interposition of the legislatures of the several states; who are the representatives and guardians of the people; whose honour and interest will lead them, in all human probability to have good men placed in the general government.

The representatives in congress are to be chosen every second year by the people in the several states. Consequently, it lies with the people themselves to say who shall represent them. It will therefore be their own fault, if they do not choose the best men in the commonwealth.

Who are congress then? they are ourselves: the men of our own choice, in whom we can confide; whose interest is inseparably connected with our own. Why is it, then, that gentleman speak of congress as some foreign body—as a set of men who will

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seek every opportunity to enslave us? Such insinuations are repugnant to the spirit of the constitution.

But a worthy gentleman from Middleborough has told us, that though they may be good men when chosen, they may become corrupt. They may so: nor is it in the power of angels or men to prevent it: but should this be the case, the constitution has made provision for such an event. When it happens, we shall know what method to adopt, in order to bring them to punishment.

2. In all governments, where officers are elective, there ever has been, and there ever will be, a competition of interests. Those who are in office, wish to keep in, and those who are out to get in: the probable consequence of which will be, that those who are already in place, will be attentive to the rights of the people; because they know that they are dependent on them for a future election, which can be secured by good behaviour only. Besides, those who are out of office, will watch those who are in with a most critical eye, in order to discover and expose their mal-conduct, if guilty of any, that so they may step into their places. Every gentleman knows the influence, that a desire to obtain a place, or the fear of losing it, hath on mankind. Mr. Burgh tells us that towards the close of the seven years, for which the representatives are chosen in the British parliament, they become exceedingly polite to the people: why? because they know there is an approaching election depending. This competition of interest, therefore, between those persons who are in, and those who are out of office, will ever form one important check to the abuse of power in our representatives.

3. Every two years there will be a revolution in the general government, in favour of the people. At the expiration of the first two years, there

will be a new choice of representatives: at the expiration of the second two years, there will be a new choice of president and representatives: and at the expiration of the third term, making six years from the commencement of the congress, there will be a new choice of senators and representatives. We all know, sir, that power, thus frequently reverting to the people, will prove a security to their liberties, and a most important check to the power of the general government.

4. Congress can make no laws that will oppress the people, which will not equally involve themselves in the oppression. What possible motive, then, can congress have to abuse their power? Can any man suppose, that they will be so lost to their own interest, as to abuse their power, knowing, at the same time, that they equally involve themselves in the difficulty? It is a most improbable supposition. This would be like a man's cutting off his nose to spite his face. I place this, sir, among the securities of the liberties of my fellow citizens, and rejoice in it.

5. Congress guarantee to every state in the union a republican form of government, and engage to protect them against all foreign and domestic enemies; that is, as it hath been justly observed by the hon. gentleman (mr. Adams) near me, of known and tried abilities as a politician, each state shall choose such a republican form of government as they please, and congress solemnly engage themselves to protect it from every kind of violence, whether of faction at home, or enemies abroad. This is an admirable security of the people at large, as well as of the several governments of the states; consequently the general government cannot swallow up the local governments, as some gentlemen have sug-



gested. Their existence is dependent on each other, and they must stand or fall together. Should congress ever attempt the destruction of the particular legislatures, they would be in the same predicament with Sampson, who overthrew the house in which the Philistines were making sport at his expense; then he killed indeed, but he buried himself in the ruins.

6. Another check in favour of the people, is this—that the constitution provides for the impeachment, trial, and punishment of every officer in congress, who shall be guilty of mal-conduct. With such a prospect, who will dare to abuse the powers vested in him by the people?

7. Having thus considered several of the checks to the powers of congress, which are interwoven with the constitution, we will now suppose the worst that can take place, in consequence of this adoption; I mean, that it shall be found in some of its parts oppressive to the people; still we have this dernier resort, it may be amended. It is not like the laws of the Medes and Persians, immutable. The fifth article provides for amendments.

It has been said, it will be difficult, after its ratification, to procure any alterations. By no means, sir—for this weighty reason: it is a general government, and such as will have a general influence. All the states in the union will feel the difficulty; and, feeling it, will readily concur in adopting the method provided by the constitution: and having once made a trial, experience will teach us what amendments are necessary.

Viewing the constitution in this light, I stand ready to give my vote for it without any amendments at all. Yet if the amendments proposed by your excellency, will tend to conciliation, I readily admit them, not as a condition of acceptance, but

as a matter of recommendation only; knowing that, “Blessed are the peacemakers.”—I am ready, sir, to submit my life, my liberty, my family, my property, and, as far as my vote will go, the interests of my constituents, to this general government.

After all, if this constitution were as perfect as the sacred volume is, it would not secure the liberties of the people, unless they watch their own liberties. Nothing written on paper will do this. It is therefore necessary, that the people should keep a watchful, not an over-jealous eye on their rulers; and that they should give all due encouragement to our colleges, schools of learning, &c. that so knowledge may be diffused through every part of our country. Ignorance and slavery, knowledge and freedom are inseparably connected. While Americans remain in their present enlightened condition, and warmly attached to the cause of liberty, they cannot be enslaved. Should the general government become so lost to all sense of honour, and the freedom of the people, as to attempt to enslave them, they, who are the descendants of a race of men, who have dethroned kings, would make an American congress tremble; strip them of their public honours; and reduce them to the lowest state of degradation.



*Speech of Mr. Ames, on the subject of the biennial elections of the house of representatives, in the proposed system of federal government. Delivered in the convention of Massachusetts, January 22, 1788.*

**I** Do not regret Mr. President, that we are not unanimous upon this question. I do not consider the diversity of sentiment which prevails, as an impediment in our way to the disco-

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very of truth. In order that we may think alike upon this subject at last, we shall be compelled to discuss it, by ascending to the principles upon which the doctrine of representation is grounded.

Without premeditation, in a situation so novel, and awed by the respect which I feel for this venerable assembly, I distrust extremely my own feelings, as well as my competency to prosecute this enquiry. With the hopes of an indulgent hearing, I will attempt to proceed. I am sensible, sir, that the doctrine of frequent elections, has been sanctified by antiquity: and is still more endeared to us, by our recent experience, and uniform habits of thinking. Gentlemen have expressed their zealous partiality for it. They consider this as a leading question in the debate, and that the merits of many other parts of the constitution are involved in the decision. I confess, sir, and I declare, that my zeal for frequent elections, is not inferior to their own. I consider them as one of the first securities for popular liberty, in which its very essence may be supposed to reside. But how shall we make the best use of this pledge and instrument of our safety? A right principle, carried to an extreme, becomes useless. It is apparent, that a delegation for a very short term, as for a single day, would defeat the design of representation. The election in that case would not seem to the people to be of any importance; and the person elected would think as lightly of his appointment. The other extreme is equally to be avoided. An election for a very long term of years, or for life, would remove the member too far from the controul of the people, would be dangerous to liberty, and, in fact, repugnant to the purposes of the delegation. The truth, as usual, is placed somewhere between the extremes;

and I believe is included in this proposition: The term of election must be so long, that the representative may understand the interests of the people, and yet so limited, that his fidelity may be secured by a dependence upon their approbation.

Before I proceed to the application of this rule, I cannot forbear to premise some remarks upon two opinions which have been suggested.

Much has been said about the people divesting themselves of power, when they delegate it to representatives; and that all representation is to their disadvantage, because it is but an image, a copy, fainter and more imperfect than the original—the people—in whom the light of power is primary and unborrowed, which is only reflected by their delegates. I cannot agree to either of these opinions. The representation of the people is something more than the people. I know, sir, but one purpose which the people can effect without delegation, and that is, to destroy a government. That they cannot erect a government, is evinced by our being thus assembled, on their behalf. The people must govern by a majority, with whom all power resides. But how is the sense of this majority to be obtained? It has been said, that a pure democracy is the best government for a small people, who may assemble in person. It is of small consequence to discuss it, as it would be inapplicable to the great country we inhabit. It may be of some use in this argument, however, to consider, that it would be very burdensome—subject to faction and violence: decisions would often be made by surprise, in the precipitancy of passion, by men who either understood nothing, or cared nothing about the subject; or by interested men, or those who voted for their own indemnity. It would be a government not by laws, but by men.

Such were the paltry democracies of Greece and Asia Minor, so much extolled, and so often proposed as models for our imitation. I desire to be thankful that our people are not under any temptation to adopt the advice. I think it will not be denied, that the people are gainers by the election of representatives. They may destroy, but they cannot exercise the powers of government, in person: but by their servants, they govern. They do not renounce their power—they do not sacrifice their rights—they become the true sovereigns of the country, when they delegate that power, which they cannot use themselves, to their trustees.

I know, sir, that people talk about the liberty of nature, and assert, that we divest ourselves of a portion of it, when we enter into society. This is declamation against matter of fact. We cannot live without society: and as to liberty, how can I be said to enjoy that, which another may take from me when he pleases? The liberty of one depends not so much on the removal of all restraint from him, as on the due restraint upon the liberty of others. Without such restraint there can be no liberty. Liberty is so far from being endangered or destroyed by this, that it is extended and secured. For I said, that we do not enjoy that, which another may take from us. But civil liberty cannot be taken from us, when any one may please to invade it: for we have the strength of the society of our side.

I hope, sir, that these reflexions will have some tendency to remove the ill impressions which are made by proposing to divest the people of their power.

That they may never be divested of it. I repeat, that I am in favour of frequent elections. Those, who commend annual elections, are desired to

consider, that the question is, whether biennial elections be a defect in the constitution? for it does not follow, because annual elections are safe, that biennial are dangerous: for both may be good. Nor is there any foundation for the fears of those who say, that if we, who have been accustomed to choose for one year only, now extend it to two, the next stride will be to five, or seven years, and the next for term of life: for this article, with all its supposed defects, is in favour of liberty. Being inserted in the constitution, it is not subject to be repealed by law. We are sure that it is the worst of the case.

It is a fence against ambitious encroachments, too high and too strong to be passed: in this respect, we have greatly the advantage of the people of England, and of all the world. The law, which limits their parliaments, is liable to be repealed.

I will not defend this article, by saying that it was a matter of compromise in the federal convention: it has my entire approbation as it stands. I think we ought to prefer in this article, biennial elections to annual: and my reasons for this opinion, are drawn from these sources:

From the extent of the country to be governed;

The objects of the legislation;

And the more perfect security of our liberty.

It seems obvious, that men, who are to collect in congress from this great territory, perhaps from the bay of Fundy, or from the banks of the Ohio, and the shore of Lake Superior, ought to have a longer term in office, than the delegates of a single state, in their own legislature. It is not by riding post to and from congress, that a man can acquire a just knowledge of the true interests of the union. This term of election is inapplicable to the state of a country, as large as Germany, or as the Ro-

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If we consider the objects of their delegation, little doubt will remain. It is admitted that annual elections may be highly fit for the state legislatures. Every citizen grows up with a knowledge of the local circumstances of the state. But the business of the federal government will be very different. The objects of their power are great and national. At least two years in office will be necessary to enable a man to judge of the trade and interests of states which he never saw. The time, I hope, will come, when this excellent country will furnish food (and freedom, which is better than food—which is the food of the soul) for fifty millions of happy people. Will any man say, that the national business can be understood in one year?

Biennial elections appear to me, sir, an essential security to liberty. These are my reasons.

Faction and enthusiasm are the instruments by which popular governments are destroyed. We need not talk of the power of an aristocracy. The people, when they lose their liberties, are cheated out of them. They nourish factions in their bosoms, which will subsist so long as abusing their honest credulity, shall be the means of acquiring power. A democracy is a volcano, which conceals the fiery materials of its own destruction. These will produce an eruption, and carry desolation in their way. The people always mean right: and if time be allowed for reflexion and information, they will do right. I would not have the first wish—the momentary impulse of the public mind, become law; for it is not always the sense of the people; with whom, I admit, that all power resides. On great questions, we first hear the loud clamours of passion, artifice, and faction. I consider biennial

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elections as a security, that the sober second thought of the people shall be law. There is a calm review of public transactions, which is made by the citizens who have families, and children, the pledges of their fidelity. To provide for popular liberty, we must take care that measures shall not be adopted without due deliberation.

The member, chosen for two years, will feel some independence in his seat. The factions of the day will expire before the end of his term.

The people will be proportionably attentive to the merits of a candidate. Two years will afford opportunity to the members to deserve well of them: and they will require evidence that they have done it.

But, sir, the representatives are the grand inquisition of the union. They are by impeachment to bring great offenders to justice. One year will not suffice to detect guilt, and pursue it to conviction. Therefore they will escape, and the balance of the two branches, will be destroyed, and the people oppressed with impunity. The senators will represent the sovereignty of the states. The representatives are to represent the people. The offices ought to bear some proportion in point of importance. This will be impossible, if they be chosen for one year only.

Will the people then blind the eyes of their own watchmen? Will they bind the hands which are to hold the sword for their defence? Will they impair their own power, by an unreasonable jealousy of themselves?

For these reasons, I am clearly of opinion, that the article is entitled to our approbation, as it stands: and as it has been demanded, why annual elections were not preferred to biennial, permit me to retort the question, and to enquire in my turn, what reason can be given, why, if

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annual elections be good, biennial elections are not better?



*Resolves proposed to the federal convention, by the honourable mr. Patterson, of New Jersey.*

1. **R**ESOLVED, that an union of the states, merely federal, ought to be the sole object of the exercise of the powers vested in this convention.

2. Resolved, that the articles of the confederation ought to be so revised, corrected, and enlarged, as to render the federal constitution adequate to the exigencies of government, and the preservation of the union.

3. Resolved, that in addition to the powers vested in the united states in congress, by the present existing articles of confederation, they be authorized to pass acts for raising a revenue by laying a duty or duties on all goods and merchandise of foreign growth or manufacture, imported into any part of the united states; by imposing stamps on paper, parchment, and vellum; and by a postage on all letters and packages passing through the general post office, to be applied to such federal purposes, as they shall deem proper and expedient; to make rules and regulations, for the collection thereof; and the same from time to time to alter and amend in such manner as they shall think proper: provided that all punishments, fines, forfeitures, and penalties, to be incurred for contravening such rules and regulations, shall be adjudged by the common law judiciaries of the state in which any offence, contrary to the true intent and meaning of such rules or regulations, shall be committed or perpetrated; with liberty of commencing all suits or prosecutions for that purpose, in the first instance, in

the supreme common law judiciary of such state—subject, nevertheless, to an appeal in the last resort, for the correction of errors, both of law and fact, in rendering judgment, to the judiciary of the united states; and that the united states shall have authority to pass acts for the regulation of trade and commerce, as well with foreign nations, as with each other.

4. Resolved, that should requisitions be necessary, instead of the present rule, the united states in congress be authorized to make such requisitions in proportion to the whole number of white and other free citizens and inhabitants, of every age, sex, and condition, including those bound to servitude for a term of years, and three-fifths of all other persons, not comprehended in the foregoing descriptions (except Indians not paying taxes.)

5. Resolved, that if such requisitions be not complied with, in the time specified therein, the united states in congress shall have power to direct the collection thereof in the non-complying states; and for that purpose to devise and pass acts directing and authorising the same: provided that none of the powers hereby vested in the united states in congress shall be exercised without the consent of at least states; and in that proportion, should the number of confederated states hereafter be increased or diminished.

6. Resolved, that the united states in congress, shall be authorized to elect a federal executive, to consist of person or persons, to continue in office for the term of years, to receive punctually, at stated times, a fixed compensation for the services by him or them to be rendered, in which no increase or diminution shall be made, so as to affect the executive in office, at the time of such increase or diminution, to be paid out of the federal treasury; to be incapable of holding any other of-

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office or appointment during the time of service, and for years after; to be ineligible a second time, and removable on impeachment and conviction for mal-practice, corrupt conduct, and neglect of duty.

7. Resolved, that the executive, besides a general authority to execute the federal acts, ought to appoint all federal officers, not otherwise provided for, and to direct all military operations; provided that the executive shall not on any occasion take command of any troops, so as personally to conduct any military enterprise as general, or in any other capacity.

8. Resolved, that the legislative acts of the united states, made under and in pursuance to the articles of union, and all treaties made and ratified under the authority of the united states, shall be the supreme law of the respective states, as far as those acts or treaties shall relate to the said states or their citizens and inhabitants; and that the judiciaries of the several states shall be bound thereby in their decisions; any thing in the respective laws of the individual states to the contrary notwithstanding.

9. Resolved, that if any state or body of men in any state, shall oppose or prevent the carrying into execution such acts or treaties, the federal executive shall be authorized to call forth the powers of the confederated states, or so much thereof as may be necessary to enforce and compel an obedience to such acts, or an observance of such treaties.

10. Resolved, that a federal judiciary be established, to consist of a supreme tribunal; the judges of which to be appointed by the executive, and to hold their offices during good behaviour; to receive punctually, at stated times, a fixed compensation for their services, to be paid out of the federal treasury; in which

no increase or diminution shall be made, so as to affect the persons actually in office, at the time of such increase or diminution. That the judiciary so established, shall have authority to hear and determine, in the first instance, on all impeachments of federal officers, and by way of appeal in the dernier resort in all cases touching the rights and privileges of ambassadors; in all cases of captures from the enemy; in all cases of piracies and felonies committed on the high seas; in all cases in which foreigners may be interested in the construction of any treaty or treaties, or which may arise on any act or ordinance of congress for the regulation of trade, or the collection of the federal revenue; that none of the judiciary officers shall be capable of receiving or holding any other office or appointment, during the time they remain in office, or for years afterwards.

11. Resolved, that the legislative, executive, and judiciary powers within the several states, ought to be bound by oath to support the articles of union.

12. Resolved, that provision ought to be made for hearing and deciding upon all disputes arising between the united states and an individual state, respecting territory.

13. Resolved, that provision ought to be made for the admission of new states into the union.

14. Resolved, that it is necessary to define what offences, committed in any state, shall be deemed high treason against the united states.

15. Resolved, that the rule for naturalization ought to be the same in every state.

16. Resolved, that a citizen of one state, committing an offence in another state, shall be deemed guilty of the same offence, as if it had been committed by a citizen of the state, in which the offence was committed,

*Curfory remarks on the federal constitution. Ascribed to Hugh Henry Brackenridge, Esq.*

IT is not my intention to enter largely into a consideration of this plan of government, but to suggest some ideas in addition to, and of the same nature with, those already made, shewing the imperfections and the danger of it.

The first thing that strikes a diligent observer, is, the want of precaution with regard to the sex of the president. Is it provided that he shall be of the male gender? The Salii, a tribe of the Burgundians, in the 11th century, excluded females from the sovereignty. Without a similar exclusion, what shall we think, if, in process of time, we should come to have an *old woman* at the head of our affairs? But what security have we that he shall be a *white man*? What would be the national disgrace, if he should be elected from one of the southern states, and a *vile negro* should come to rule over us! Treaties would then be formed with the tribes of Congo and Loango, instead of the civilized nations of Europe. But is there any security that he shall be a *freeman*? Who knows but the electors at a future period, in days of corruption, may pick up a man-servant, a convict perhaps, and give him the dominion? Is any care taken that he shall be of *perfect parts*?—Shall we, in affairs of a civil nature, leave a door open to lame men, bastards, eunuchs, and the devil knows what?

A senate is the next great constituent part of the government: and yet there is not a word said with regard to the ancestry of any of them, whether they should be altogether Irish, or only Scots Irish. If any of them have been in the war of the White Boys, the Hearts of Oak, or the like, they may overturn all authority, and make Shilelah the supreme law of the land.

The house of representatives is to be so large, that it can never be built. They may begin it, but it can never be finished. Ten miles square! Babylon itself, unless the suburbs be taken into view, was not of greater extent.

But what avails it, to dwell on these things? The want of a *bill of rights* is the great evil. There was no occasion for a bill of *wrongs*; for there will be wrongs enough. But oh! a *bill of rights*! what is the nature of a bill of rights? "It is a schedule or inventory of those powers which congress do not possess." But if it be clearly ascertained what powers they have, what need of a catalogue of those powers they have not? Ah! there is the mistake. A minister preaching, undertook, first, to shew what was in his text; second, what was not in it. When it is specified what powers are given, why not also what powers are not given? A bill of rights is wanting, and all those things which are usually secured under it—

1. The *rights of conscience* are swept away. The confession of faith, the prayer-book, the manual, and pilgrim's progress are to go. The psalms of Watts, I am told, are the only thing of the kind that is to have any quarter all.

The *liberty of the press*;—that is gone at the first stroke. Not so much as an advertisement for a stray horse, or a runaway negro, can be put in any of the gazettes.

3. The *trial by jury*;—that is knocked in the head: and all that worthy class of men, the lawyers, who live by haranguing and bending the juries, are demolished.

I would submit it to any candid man, if in this constitution there be the least provision for the privilege of shaving the beard? or is there any mode laid down to take the measure of a pair of breeches? Whence is it then, that men of learning seem so

much to approve, while the ignorant are against it? The cause is perfectly apparent, viz. that reason is an erring guide, while instinct, which is the governing principle of the untaught, is certain. Put a pig in a poke, carry it half a day's journey through woods and by ways; let it out, and it will run home without deviation. Could dr. Franklin do this? What reason have we then to suppose that his judgment, or that of Washington, could be equal to that of mr. Smilie in state affairs?

Were it not on this principle that we are able to account for it, it might be thought strange, that old Livingston, of the Jerseys, could be so hoodwinked, as to give his sanction to such a diabolical scheme of tyranny amongst men—a constitution which may well be called hell-born. For if all the devils in Pandemonium had been employed about it, they could not have made a worse. Neil Mac-Loughlin, a neighbour of mine, who has been talking with mr. Findley, says, that under this constitution all weavers are to be put to death. What have these innocent manufacturers done, that they should be proscribed?

Let other states think what they will of it, there is one reason why every Pennsylvanian should execrate this imposition upon mankind. It will make his state most probably the seat of government, and bring all the officers, and cause a great part of the revenue to be expended here. This must make the people rich, enable them to pay their debts, and corrupt their morals. Any citizen, therefore, on the Delaware and Susquehanna waters, ought to be hanged and quartered, that would give it countenance.

I shall content myself at present with these strictures, but shall continue them from time to time as occasion may require.

*Pittsburg, April, 1788.*

*Address to the minority of the convention of Pennsylvania. By Trach Carr, esq.*

*(Continued from page 245.)*

NUMBER III.

*Gentlemen,*

**I**N my former letters, I endeavoured to point out certain provisions of the new constitution, and several circumstances which must result from the proposed frame of government, and the state constitutions, which might demonstrate, that there is no ground to apprehend a consolidation of the states, which shall join the depending confederacy, into one government.

An observation of the hon. mr. Willson's, has been adduced, among other arguments, to prove, that despotism would follow such a general government. I believe with him, and with you, that such would be the consequence of a single national constitution, in which all the objects of society and government were so completely provided for, as to place the several states in the union on the footing of counties of the empire. But permit me to ask you, gentlemen, will such be the condition of the states? Where is the county that can independently train its own militia; appoint its civil and militia officers; establish a peculiar system of penal laws; issue criminal process in its own name; erect corporations; impose direct taxes, excises, and duties; hold lands in its own right; commence war on any emergency; regulate descents; prescribe the qualifications of electors; alter its constitution, or the principles of its government; divide itself into separate and independent parts; join itself to another state; issue writs for elections, and regulate the same; enact inspection laws; erect courts; appoint judges, commission all its officers; create new offices; sell and give away its lands; erect fortifications; and, in short, where is the coun-



ty in the union, or in the world, that can exercise in any instance independent legislative, executive, or judicial powers

Those three gentlemen, who withheld their names from the act of the federal convention, could not have apprehended the annihilation of the state governments, while that house was sitting, or they would, under the influence of such a fear, certainly have pressed for a bill of rights. It appears they did not think one so necessary, as to convert a single motion to obtain it: a conclusive proof, in my mind, that they saw no symptoms of a design to consolidate, in the framers of the plan, and that they had no apprehensions of the kind themselves.

The construction of the senate affords an absolute certainty, that the states will not lose their present share of separate powers. No state is to lose its voice therein, without its own consent. Governor Randolph justly observes, that the force of the constitution of any state can only be lessened by the absolute grant of its own citizens. Whatever therefore, is now possessed, will remain unless transferred by new grants. The state legislatures, too, being the immediate representatives and guardians of their respective constituents—and being the powerful creators of the senators, it cannot be apprehended, either that they will give away their own powers; or that they will choose men who are unfriendly to them: nor is it at all probable, that a senator would hazard the displeasure of the people, or the vengeance of so potent a body as a state legislature, by sacrificing their interests or powers. Rather may it be expected, that his interest and connexions in the state, will too partially attach him to it, to the injury of national objects; or that he may neglect general concerns from a de-

sire to please a legislature or a people who will be to him the source of honours, emolument, and power.

So independent will the state governments remain, that their laws may, and, in some instances, will be severer than those of the union. Treason against the united states, for instance, cannot be attended with confiscation and corruption of blood; but by the existing laws of all the states, the unoffending families of attainted persons, stripped of all hereditary rights, and condemned to the bitter portion of extreme poverty, are left, without their friend and parent, to meet the trials of the world alone—an awful monument of the sovereign and avenging power of their native state. Let the representative or senator, who may meditate the annihilation of the government of his state, duly consider this, before it be too late.

You apprehend, the power of congress to lay direct taxes, will tend to produce consolidation. But the several states possess that power also, and by an early, wise, and faithful exercise of it, can always supersede the use of it by congress. For example: if ten thousand pounds were apportioned to Pennsylvania, to make up the interest on our foreign debts, by the end of 1788, a tax for which would be laid in July; our legislature might proceed, in the most easy and expeditious way, to raise the money against the time when the federal government must necessarily proceed; and by paying our quota into the federal treasury, would fulfil the requisitions of the law. A federal government, that shall possess the least degree of policy or virtue, would never attempt to interfere with such honest, wise, and effectual arrangements of any state. It cannot be reasonably feared, that a federal legislature, chosen by the equal voices of all our citizens, the poor as well as

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the rich, will ever wrest from the hands of the people and states, who respectively appoint them, powers so wisely placed, and so honestly applied.

The check of the senate, on the appointment of officers, will exceedingly favour the preservation of the state governments. Let us suppose an expedition on foot, which requires a number of general officers, whom a president might be inclined to appoint from the state to which he belongs, or for which several persons are nominated, that are too partially attached to the federal government, or desirous of lessening the powers of the separate states. The senate can reject them all, and independently give their reasons to the people and the legislatures. That they will often do so, we cannot doubt, when we remember where their private interests, affections, and connexions lie—to whom they will owe their seats—to whom they must look for future favours of the same kind.

The lordship of the soil is one of the most valuable and powerful appendages of sovereignty: this remains in full perfection with every state. From them must grants flow; to them must be paid the annual acknowledgment, whether it be a mere compliance with form, in the rendering of a pepper corn, or a solid revenue, in the payment of a quit-rent. To them, also, as original and rightful proprietaries and lords of the soil, will the estates of extinct families revert.

Independent revenues and resources are indubitable proofs of sovereignty. The states will possess many of those which now exist, and which may hereafter be created. Taxes on state offices, fees for grants of lands, and various licences, tolls on rivers, canals, and roads, not being post-roads, rents of public buildings, excise, the mighty fund of quit-

rents, and sales of lands—these, and many others are (exclusively of congress) within the power of the several states, besides their having access, in common with the federal government, to every source of revenue, but the duties on foreign merchandise and ships.

Impeachments within the several states will afford them opportunities of exerting the most dignified and awful powers of sovereignty. The people of every state, by their constitutional representatives, may impeach the public officer, however great or daring, who shall presume to violate their exclusive rights, or offend against the peace and dignity of their commonwealth; and may punish him, on conviction, by fine, imprisonment, or death, without any possible interference of congress.

But, gentlemen, the subject is inexhaustible. Every section in the federal constitution, as we peruse it, affords new ideas opposed to consolidation. Every moment's reflexion, on the operation and tendency of the proposed government, adds to their number. I will not therefore trespass longer on your time. I will rest the matter on your own good sense and candour, confidently trusting, that the removal of your apprehensions, on this important point, will render the new constitution more agreeable to you. Thinking, as you did, consolidation was intended, and would take place, and that it must produce a despotism, you would have been criminal in assenting to the plan proposed: but I will hope, that the consideration of this point, which we have taken together, will remove your fears, and open the door to comfortable hopes, rather than to apprehensions, from the great measure now waiting the fiat of the people of the united states.

A FREEMAN.

*Letter from mr. Lambert, councillor of state and of the council-royal of finance and commerce, comptroller general of the finances of France, to mr. Jefferson, minister plenipotentiary for the united states of America, at the court of Versailles.*

*Versailles, Dec. 29, 1787.*

**I** HAVE the honour, sir, to send you a copy of an arret, passed in council, for encouraging the commerce of the united states of America in France. I shall furnish you with a number of others, as soon as they shall be printed.

You will therein see, that several considerable favours, not before promised to the American commerce, have been added to those which the king announced to you, in the letter addressed to you on the 22d of October of the last year.\*

If in the mean time any duties have been levied, contrary to the intentions of that letter, they shall be repaid, on sight of the vouchers.

I have also ordered a verification of the facts whereon it was represented to you, that the decision of 24th of May, 1786, relative to the commerce of tobacco, had not been fully executed. Be assured, that if it shall appear, that engagements have been evaded, which were taken under the sanction of the king, effectual provision shall be made for their scrupulous fulfilment.

You will learn also with pleasure, that the measures I have taken, to prevent the interruption of the commerce of tobacco, have had full success.

This commodity shall not be excepted from among those to which the right of entrepot is given. The farmers-general shall have no prefer-

ence in the purchases: the proprietors shall be perfectly masters of their speculations--and free to export their tobaccos by sea to foreign countries.

Measures only must be taken to prevent those frauds to which the entrepot might serve as a pretext: and the chambers of commerce for the ports shall be consulted, in order that the precautions necessary for this purpose may not be in a form incompatible with that liberty which commerce ought to enjoy in its operations.

Although the present stock of the farmers-general amounts to about three years consumption, I have engaged that company to continue to purchase yearly, from the 1st of January, 1788, to the end of their lease, fourteen thousand hogheads of tobacco, brought directly into the ports of France, in French or American bottoms; and to shew, at the end of every four months, that their purchases amount to four thousand six hundred and sixty-six hogheads.

As to the prices, you have been sensible yourself of the necessity of leaving them free: and this freedom of price was the principal object of the applications of the American and French merchants, when they complained of the contract of mr. Morris.

The determination then taken, to force the purchases of tobacco, though at high prices, inasmuch that the farmers-general now find themselves possessed of three years provision, shews that the interests of the planters and merchants of the united states of America have ever been precious to the king.

The arret of council herein enclosed, and the other regulations, which I have the honour of communicating to you, are a further confirmation of a truth tending so much to

#### NOTE.

\* See American Museum, Vol. I. p. 214, of the first edition; and page 200, of the second.

strengthen the bands, which unite the two nations.

I have the honour to be, with a very sincere and inviolable attachment, sir, your most humble and most obedient servant,

(Signed)

LAMBERT.

*An act of the king's council of state, for the encouragement of the commerce of France with the united states of America.*

December 29, 1787.

*Extract from the records of the council of state.*

THE king, desirous of encouraging the commerce of his subjects with the united states of America, and of facilitating, between the two nations, connexions reciprocally useful—having heard the report of sieur Lambert, counsellor of state, and of the royal council of finance and commerce, comptroller-general of finance, his majesty being in his council, has ordained, and does ordain, as follows:

I.

Whale oils and spermaceti, the produce of the fisheries of the citizens and inhabitants of the united states of America, which shall be brought into France directly in French vessels, or in those of the united states, shall continue to be subject to a duty only of seven livres ten sols the barrel, of five hundred and twenty pounds weight; and whale-fins shall be subject to a duty of only six livres thirteen sols four deniers, the quintal, with the ten sols per livre, on each of the said duties; which ten sols per livre shall cease on the last day of December, one thousand seven hundred and ninety: his majesty reserving to himself to grant further favours to the produce of the whale fisheries carried on by the fishermen of the united states of America, which shall be brought into France in French vessels, or in those

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of the united states, if, on the information which his majesty shall cause to be taken thereon, he shall judge it expedient for the interest of the two nations.

II.

The other fish-oils and dry or salted fish, the produce, in like manner, of the fisheries of the citizens and inhabitants of the united states, and brought also directly into France, in their, or in French vessels, shall not pay any other nor greater duties than those to which the oils and fish of the same kind, the produce of the fisheries of Hanseatic towns, or of other the most favoured nations, are or shall be subject, in the same case.

III.

The manufacture of candles and tapers, of spermaceti, shall be permitted in France, as that of other candles and tapers.

IV.

Corn, wheat, rye, rice, pease, beans, lentils, flax-seed, and other seeds, flour, trees, and shrubs, pot-ash and pearl-ash, skins and fur of beaver, raw hides, furs and peltry, and timber, brought from the united states directly into France, in French vessels, or in those of the united states, shall not be subject but to a duty of one-eighth per cent. on their value.

V.

Vessels, built in the united states, and sold in France, or purchased by Frenchmen, shall be exempt from all duties, on proof that they were built in the united states.

VI.

Turpentine, tar, and pitch, the produce of the united states of America, and brought directly into France, in French vessels, or in those of the united states, shall pay only a duty of two and a half per cent. on their value: and as well the duties mentioned in this, as in the fourth article, shall be exempt from all addition of sous per livre.

I.



## VII.

The exportation of arms of all sorts, and of gunpowder, for the united states of America, shall be always permitted in French vessels, or in those of the united states, paying, for the arms, a duty of one eighth per cent. on their value; and gunpowder, in that case, shall be exempt from all duty, on giving a cautionary bond.

## VIII.

Papers, of all sorts, even paper-hangings and coloured papers, paste-board, and books, shall be exempt from all duties, on their embarkation for the united states of America, in French vessels, or in those of the united states, and shall be entitled, in that case, to a restitution of the fabrication duties on paper and paste-board.

## IX.

The admiralty duties, on the vessels of the united states, entering into or going out of the ports of France, shall not be levied but conformably with the edict of the month of June last, in the cases therein provided for, and with the letters patent of the tenth of January, one thousand seven hundred and seventy, for the objects, for which no provision shall have been made by the said edict: his majesty reserving to himself, moreover, to make known his intentions, as to the manner in which the said duties shall be levied, whether in proportion to the tonnage of the vessels, or otherwise, as also to simplify the said duties of the admiralty, and to regulate them, as far as shall be possible, on the principle of reciprocity, as soon as the orders shall be completed, which were given by his majesty, according to the twenty-sixth article of the said edict of the month of June last.

## X.

The entrepot (or storing) of all the productions and merchandise of

the united states, shall be permitted for six months in all the ports of France, open to the commerce of her colonies; and the said entrepot shall be subject only to a duty of one eighth per cent.

## XI.

To favour the exportation of arms, hardware, jewelry, and bonnetry\*, of wool and of cotton, coarse woollens, small draperies, and stuffs of cotton of all sorts, and other merchandise of French fabric; which shall be sent to the united states of America in French vessels, or in those of the united states—his majesty reserves to himself to grant encouragements, which shall be immediately regulated in his council according to the nature of each of the said merchandises.

## XII.

As to other merchandises, not mentioned in this act, brought directly into France from the united states, in their, or in French vessels, or carried from France to the said united states, in French vessels, or in those of the united states—and with respect to all commercial conventions whatsoever—his majesty wills and ordains that the citizens of the united states enjoy in France the same rights, privileges, and exemptions, with the subjects of his majesty, saving the execution of what is provided in the ninth article hereof.

## XIII.

His majesty grants to the citizens and inhabitants of the united states, all the advantages which are enjoyed, or which may be hereafter enjoyed, by the most favoured nations, in his colonies of America; and moreover, his majesty assures to the said

## NOTE.

\* This term includes bonnets, stockings, socks, under-waistcoats, drawers, gloves, and mittens, as sold by the bonnetiers.

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citizens and inhabitants of the united states, all the privileges and advantages, which his own subjects of France enjoy, or shall enjoy, in Asia, and in the seas leading thereto; provided, always, that their vessels shall have been fitted out and dispatched in some port of the united states.

His majesty commands and orders M. le duc de Penthièvre, admiral of France the intendants and commissioners de parti, in the provinces, the commissioners de parti, for the observation of the ordinances in the admiralities, the officers of the admiralities, masters of the ports, judges de traites, and all others, to whom it shall belong, to be aiding in the execution of the present regulation; which shall be registered in the offices of the said admiralities, read, published, and posted, wherever shall be necessary.

Done in the king's council of state, his majesty present, held at Versailles, the twenty ninth of December, one thousand seven hundred and eighty-seven. (Signed,) Le Cte. de la LUZERNE.



*Law case, tried and determined, at a supreme court of law and equity, for the district of Newbern, North Carolina, on the 30th of November, 1787.*

IN the course of term came on among other matters, a cause in ejectment which had been of long and uncommon expectation, between William Bayard, and Elizabeth, his wife, against Spyers Singleton, for the recovery of a valuable house and lot, with a wharf, and other appurtenances, situate in Newbern—both the plaintiff and defendant admitted the title of the premises to have been in Samuel Cornell, esq. at and before the time when the independence of the state commenced.

The case appeared to be this—mr. Cornell, once an inhabitant of Newbern, leaving his family, together with the premises in question, and a variety of property therein, took shipping on the 19th of August 1775, and went to Great Britain, where he continued till some time in the latter part of the year 1777, when he came to New York, then occupied by a British garrison; and, as a British subject, went from thence and arrived in Newbern on the 11th of December, 1777, under the protection of a British flag.

His principal design in going to that state, at that time, was to take his wife and family with him, to reside under the British government, if he did not find our new government agreeable to his wishes. Not being pleased with the appearance of things, there, and thereupon preparing to leave the state, and to carry with him his wife and family, he executed, on board the vessel he came in, a deed to his daughter, one of the plaintiffs (under which they claim) for the premises in question, on the 19th of December, 1777.

This deed, for the purpose of execution, had been handed to him without a date, and being asked what date he chose it should bear, he hesitated, and said he would look at the copy of a bill which was then in his possession, which bill he understood to be on its passage in the legislature, for confiscating the property of all persons of his description, who should not, within a limited time, come into the state, and be made citizens thereof, which bill afterwards, in the same session, passed into a law. After looking at the aforesaid copy of that bill, he chose that the deed should bear date on the 11th of the same month, being the day he arrived in the harbour of Newbern; which deed was accordingly dated that day. After which mr. Cornell retired with his

family from the state; and from thenceforth, lived and died a British subject, under the British government.

Upon an issue of not guilty, under the common rule, the jury, consistent with the charge of the court, wherein all the judges gave their opinions, *seriatim*, but unanimously, found the defendant not guilty of the trespass and ejectment set forth in the plaintiffs' declaration.

This case was argued on both sides of the question, by counsel of the first eminence. And the cause chiefly turned on the point of alienage in *mr. Cornell*. For having, from his birth to the time of his death, been always a British subject, and having always lived under the British government, he owed allegiance to the king of Great Britain, and consequently, was never a citizen of that, or any other of the united states, nor owed allegiance thereto. For when there, at the time of the transaction aforementioned, he was under the protection of a British flag. That he was, therefore, in contemplation of law, as much an alien, and at the time of executing the deed, and from the time of our independence, as much an alien enemy, as if we had been an independent nation, for any number of years or ages, before the commencement of the war which was then carried on.

That it is the policy of all nations and states, that the lands within their government, should not be held by foreigners. And therefore it is a general maxim, that the allegiance of a person who holds land, ought to be as permanent to the government under which he holds it, as the tenure of the soil itself. That therefore by the civil, as well as by the common law of England, aliens are incapacitated to hold lands. For that purpose, the civil law has made contracts with aliens, void. The law of England, which we have adopted, al-

lows them to purchase, but subjects them to forfeiture immediately; and does not allow an alien enemy any political rights at all.

That the premises in question, upon these invariable principles of law, could not, from the time our government commenced, have been held by *mr. Cornell*: because that in consequence of his owing no allegiance to the state, he had no capacity to hold them; and according to the letter of the law of the land, they must have consequently been forfeited to the sovereignty of the state. That the act of confiscation, in which *mr. Cornell* was expressly named—and, more particularly, the act which especially directed the sale of the very premises in question—must have been at least as effectual in vesting them in the state, as any office, found according to the practice in England, can be for vesting any forfeited property in the king.

That the circumstances and limited privileges of persons, who were sent out of the state under a particular act of the general assembly, are not applicable to this case. That the case in *Vattel*, of the majority of the inhabitants of any country deliberately dissolving their old government, and setting up a new one, is neither in reason, nor in the more essential circumstances, any way similar to this case. That *Calvin's case*, reported in *Coke*, does by no means reach the leading and characteristic circumstances of this case.

The defendant held under a title derived from the state, by a deed from a superintendant commissioner of confiscated estates. On the decision of this cause, in favour of the defendant, the remaining twenty-seven causes, depending in the same court, and subsisting upon similar, or less substantial grounds, were all swept off the docket, by nonsuits voluntarily suffered.

*A hint to the farmers of Pennsylvania.*

**T**HE use of plaister of Paris is becoming very general in this state, as a manure for meadow ground, and for worn-out lands of all kinds; but unless some care is taken in the management of the lands afterwards, on which this powder is sprinkled, it will do more harm than good. In Germany, where it was first used as a manure, it is a common saying, that "it makes rich children but poor grand-children;" owing to the exhausting of the earth of its fertility, by the plentiful crops it procures, in a few years. To understand the meaning of this remark, I shall observe, that plaister of Paris, lime, and marle, act only as medicines or cordials upon land. They give it a temporary activity, which is always followed with weakness and barrenness afterwards, unless it be prevented by large quantities of dung or stable manure, which is the only proper food of the earth. To obviate the inconveniences of the use of the above mentioned cordials, it is absolutely necessary to give back to the earth, in dung, all that is taken from it in grass or grain. The greater the crops produced by the plaister of Paris, the greater quantity of stable manure should be spread upon the land which produces them. If land, that has been recovered by the use of plaister of Paris, is treated in this way, its fertility will last to the end of time.

*On the use of drift-sand as manure.*

Mr. Printer,

**I** HAVE a meadow and part of a common field, lying near a brook that is often flooded; the bottom of the brook is a sharp gravel and sand, which, in a crooked course, are often thrown up so as to impede the cur-

rent. I always had observed, that floods, so far from benefiting my meadow, were rather prejudicial, contrary to what is known and observed of some rivers, where the overflowings enrich and make the grass better and more in quantity. It being necessary to clear the brook, and great quantities of stuff being brought to land, I was induced to try what effect it would have, laid on my meadow, and my arable land, being then young grass, after white oats: accordingly, it was thrown first out as much as possible, near the banks of the brook, and, after lying a day or two to drain off the wet, it was carted both on the meadow and the clover. It acted on my clover in an extraordinary manner, producing a greater crop than I had ever had before; nor did it lose its effect on the wheat, which followed the clover, having nearly two sacks more on an acre than I ever had before. On my meadow it acted better the second year than the first; and this year was considerably benefited by it. Thus I removed a troublesome nuisance; and in the room of it, procured a considerable advantage to my farm. I need not tell you, I shall constantly pursue the same plan, whenever the stream shall drive me down sufficient manure, as I now call it, for my purpose.

*On the use of pulverised bones as manure.*

**I** HAVE been exceedingly entertained with the result of an experiment I instituted last spring, whilst I directed my attention to the subject of manures. As I was one day walking in the field, I saw the bones of a cow that had died with a distemper, and which had acquired, by long exposure to the air and rain, a degree of whiteness, and had lost their original firmness—I ignorantly imagina-



ed, from their colour, that they might, by calcination, or burning, be reduced to lime. As it was winter time, and I had but little to do, I had them all hauled up to my house, where I made a large fire, and put the bones into it: they remained there red hot nearly three hours; they were now very white and easy pulverable, but had scarce any of the properties of lime. However, that I might not have all my labour in vain, I reduced as many of them to powder as would fill a half-peck, resolving to try their efficacy as manure—I measured off three equal parcels of ground; on the first I sowed a mixture of grass-seed and the powdered bones (in the proportion of one bushel and an half to an acre); on the second, I sowed the same with an equal mixture of plaister of Paris, and the bones, in the same proportion; and on the third I only varied the experiment, by using a little of the plaister of Paris, without addition; all the rest of the meadow was sown with the same seed, without any manure. After it had grown on all three to such height, as to make any difference discoverable, I took two farmers, who had long been used to mow good grass, to view my patches; they thought that there was a manifest difference between the middle patch and the two others—having, as they said, produced far the best grass: for my part, I confess I could not decisively conclude upon the superiority of either; but I have scarce any doubt, but that powdered bones, at least when mixed with plaister of Paris, would be found an excellent manure for meadow—and I fancy much cheaper than plaister of Paris. Before it can come into general use, it will require that its virtues be confirmed by future experiments, and on a larger scale; I therefore would be pleased that you would endeavour, to inform such of your friends of this experiment, as

are fond of agricultural enquiries. I have been told by a gentleman lately from Europe, that the earth of bones is not looked upon now to be of the nature of lime-stones, but that it really has a greater resemblance to plaister of Paris, than was before imagined: to understand the proof of it, he said, required a knowledge of chemistry; but, as I have never studied that science, I did not request it of him.



*Method of preventing the destruction of apple-trees by canker worms.*

THE insects, from which the canker worms are produced, are hid in the ground, near the root of the tree, not far from the surface, and make their appearance as soon as the snow is off, and the top of the ground soft, (which sometimes happens as early as February). The males have wings, and frequently fly directly to the limbs, without touching the body of the tree; fortunately, the females have none, but are a very clumsy bug, and very easily stopped by tarring the tree. To do this with success, it is very necessary, that the tar made use of, be of a proper consistence; if it be very thick, it will be impossible to lay it on without first heating it; which makes it form a hard surface when cold, that suffers the bug to pass over without difficulty. Some endeavour to remedy this inconvenience, by mixing train-oil with the tar; but the thin kind of tar, without oil, is far preferable: if this be exposed to the sun through the day, it will be sufficiently soft to be laid on with a brush. 'Tis best, the rough bark should be first scraped off with a hoe, or some other convenient instrument, and the tar put round the tree, about four inches wide; this operation must be repeated every day,

when the state of the ground will permit them to move, till they have done going up. It is not common that the weather permits them to stir till the middle, and often, not till the latter end, of March; when that is the case, and the weather continues warm, they will all be out of the ground in about fourteen days; but as they are commonly interrupted with snow or cold, it will generally be necessary to tar as many as twenty times, and sometimes more. The time that is generally chosen to begin, is about two hours before sunset, (which is the time the insects begin to move) and if not finished till an hour after the sun is down (after the first time) it is immaterial, for the tar that is already on the tree, softened by the warmth of the sun, will be sufficient to stop them till that time. I am sensible there have been several objections to this method of tarring, viz. that it is attended with trouble and expense; that it injures the tree, and, after all, that it is ineffectual. As to the expense, a barrel of tar is sufficient for an orchard that will make an hundred barrels of cider; and four persons, in two hours, will be able to tar the whole once; allowing this to be repeated twenty times, the expense cannot be great; and experience has sufficiently proved that it does not injure the tree—I know of several orchards that have been tarred (as often as the worms visited them) for twenty years, and could never perceive any injury done them; on the contrary, I know of some others in the same neighbourhood, that have not been tarred, entirely destroyed by the worms. If the tree be thrifty, it will be necessary, some time in the summer following, to scrape off the tar, or make a few incisions through it, to prevent the bark from being confined. That it has ever proved ineffectual, I believe no one can produce an instance,

where proper steps have been taken; but where it has failed, it has been owing to improper management or want of perseverance.

Portsmouth, February, 1788.



On the preparation and advantage of sumach berries.

IT has long since been the practice among the natives of this continent, to substitute the sumach berry for tobacco, and the secret was lately transmitted into Europe; in consequence of which it has become so universally esteemed by people of fashion and fortune, that very large sums have recently been offered to gentlemen of mercantile professions, for this valuable, much admired, and common production of nature. I am told by country farmers, who know its utility only as a dye, that it may be collected by the peasants and poor people for one guinea per barrel; if so, surely it would be a staple commodity, and one very much to be encouraged, as a remittance to different parts of Europe, when it is asserted from unimpeached authority to command a sum equivalent to five pounds, twelve shillings, this currency. As a farther encomium on the sumach, I can assure you, that the greatest connoisseurs in this, and many other respectable and populous towns in this state, give it the preference to the best manufactured Virginia tobacco; moreover, they publicly declare, that since they have smoked this ordinary berry, the fume of tobacco has become obnoxious to them in the highest degree. The easiest and indeed the only method to be pursued in preparing the sumach, to a state proper for smoking, is, to procure it in the month of November, expose it some time to the open air, spread very thin on

canvas, subsequent to which, dry it in an oven, one third heated; after you have completed the progress of cure thus far, spread it again on canvas, as before; there let it remain twenty-two hours, when it will be perfectly fit for use, and consequently in a state proper for exportation. Whoever will put this into execution, after its having arrived to a proper degree of maturity, and undergone the requisite process, will find it perfectly answer all the qualifications of the above-mentioned plant, so much in repute with gentlemen fond of amusing themselves with a pipe. All the other purposes intended to be answered by tobacco, are to enliven the spirits, and cause a copious evacuation of that juice, denominated, by medical gentlemen, saliva; all these ends are fully answered by the sumach; it will upon the first essay prove itself capable of producing the desired effect.

*A native of America.*

P. S. The sumach has been discovered to be possessed of very powerful antiseptic properties. Medical gentlemen of the first observation, have asserted and proved it manifestly a strong resister of putrefaction; it is frequently employed as a gargle in that species of cynthanche, denominated maligna, or putrid ulcerated fore throat, and with very salutary consequences. *New York, 1788.*



*Meditations on a tea-pot.*

IT certainly may be excused, if men are sometimes visionary (the wisest and best being often so) and carry their speculations beyond the bounds of reality; and fanciful people, by right reason, can never be convinced of their mistakes. Pray, reader, be serious while I set down one of my reveries.

What is the world, said I to myself, but a *large china ware-house*? And what is man, who makes so useful a part of it, but a *china tea-pot*? St. Paul says, man is of the earth, *earthly*; divines call him a *tenement of clay*; philosophers and physicians assert that the stamina of the human body are *mere earth*; chymists find, by an analysis, that *white earth* is all that remains of us at the bottom of the crucible; the preacher, in his elegant sketch of anatomy and of our dissolution, expresses it, *the pitcher* (or *water-pot*) is broken at the fountain. But to proceed.

In this said *warehouse* we see things, of the same materials and composition, though differently modified. These are ranged only in different orders; each in its own, some in higher and some in more inferior stations, some of *finer clay*, and of more *gaudy out-fits*, some made to honour and some to dishonour. But alas! all are alike, as to colour and make of parts within; and both high and low are subject to the same disasters, though not equally; the high being more out of reach; but those that are higher are liable to *greater falls*, and to be broken into smaller fragments; all alike must be mended by the same ways and means, if mended at all; and when not to be mended, must meet with one common fate, be swept among the mass of things, and forgotten.

As to man, the *tea-pot*, the epitome of this *warehouse*, who makes so respectable a figure in it, was he not formed out of *clay*, like his brother? Was he not originally manufactured in the Asiatic country? Is he not equally brittle in his texture, as easily broken, and, when broken, does he not as readily return to, and mix with *earth*, his first principle? And this analogy has been very happily and justly considered by one of our

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most celebrated poet who says, or rather sings,

"Here living teapots stand—one arm held out—

"One bent; the handle this, and that the spout."

A walking tripod is mentioned by Homer, and two speaking pots by Æsop.

Does not a teapot, as well as man, its semblance, contain the four elements, air and water, earth and fire? Is it not, as well as man, devoted mostly to the service of women, who, after those principles are exhausted, pay as little regard to either as to a potter's common earthen vessel? Has it not been observed, that foreigners have been often more courted and had higher places assigned them, than our own natives? And is not every teapot, of external excellence, from the Indies, placed in the most conspicuous place, and more prized than any of our home commodities, though equally strong, useful, and handsome? What is a nabob, but a large rich china jar, or, if you please, a teapot, finely ornamented, though fit only for show in the dressing room of a lady? Is not his exotic dress, like the outside figures of an India vessel, both alluring and engaging? What is a citizen, but a teapot of greater magnitude, ready to receive, and as ready to pour out what he receives? What is a tradesman, but a teapot of coarser ware—and fit only for common use, who, when cracked, is treated with carelessness, and when broken (no uncommon incident to a tradesman) is counted as dirt, and consigned to oblivion, among the fragments of plebeian earthen ware?

Is not a fine lady a vessel of penciled china? Is not her reputation as frail? Can you solder up the flaws either of the one or the other so completely as not to be pried into, and commented on? If white lead repair the blemishes of a lady's face, does it not also repair the cracks and defects of

china? And are not both liable to a failure in the same places, where they were mended before?

If then mortal man be a teapot, in this world of china ware, would it not be a laudable custom, to try sufficiently the ware we want, to be sharp sighted with regard to defects, before we buy—and wink wilfully at, or be blind to defects, after the ware is called our own—suit as we ring—and examine suspected vessels before we purchase them—and pretend not to see afterwards those parts that are clouded with impurities? And might not this practice prevent that loathing and dislike we shew to living vessels, which for some time have ornamented our houses, and made a considerable, at least a showy part of our furniture, and not treat those said living vessels as we do a piece of vulgar china ware, suffering them to be soiled with dirt, and placed so low as to be insulted by every common broom?

No wonder, gentle reader, after those sublime meditations, that I should fancy myself A TEA-POT.



An oration in praise of ignorance. Delivered at the commencement in the university of Pennsylvania, July 4, 1781; being the anniversary of the declaration of independence.

IT is an observation made by wisdom, and it is also the declaration of experience, that "he who increaseth knowledge, increaseth sorrow:" and yet so far are mankind from paying any attention to it, that we find there are schools, academies, colleges, universities (and a Dutch divine, in a neighbouring state, has lately added a gymnasium to the list) erected for the purpose of increasing knowledge; as if our sorrows could not be sufficiently numerous, without the assistance of art. My intention is to destroy, if possible, these pests of society, and to point out the advantages which flow

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from *ignorance*.—Ignorance! thou balm of life, and sorrow-soothing power! parent of hope, and enemy of care! on thee I call for inspiration, and invoke thine aid while I celebrate thy praise—display thy power, and attempt to prove, that all other sources of felicity are fleeting and fallacious.

Knowledge appears to have originated from envy, and that envy to have been seated in the *devil's* breast.

"Ye shall be as *gods*, knowing good and evil," was his artful insinuation to deprive our first parents of their happiness. Deceived by him, they ate "Of that forbidden tree, whose mortal taste

"Brought sin into the world, and all our woes."

While Adam was ignorant, he was a *gentleman*: but knowledge reduced him to the necessity of labouring hard for a subsistence, and even *paradise* lost all its charms. The beauteous mother of mankind, who, in ignorance, was happy in the smiles of her husband, and had no care but to regale herself with the sweets of Eden, as soon as information entered her breast, became a disconsolate sempstress in the midst of the wilderness. She was ashamed of her knowledge; and she blushed. She was mortified by its consequences; and her tongue learned the language of insincerity, that it might deny the feelings of her heart. *This* was the origin of knowledge; and these were some of the first attendants upon improvement in science! How much happier had been *our* lot, had our first parents obeyed the dictates of nature, and remained in ignorance! I say *obeyed the dictates of nature*; for she clearly teaches us to seek for happiness in ignorance alone. Need I produce a proof of this? Observe your *children*: are they *born* scholars? no; nor do they wish to be such. See, with what sportive mirth they play around the par-

lour while indulged in ignorance; but the moment you attempt to teach them, their countenances change—their swelling bosoms heave a dreadful sigh—and the tears which trickle down their cheeks, tell you the sorrows of their hearts. How does a holiday enliven their spirits, and what raptures do they discover, the instant their pedagogue dismisses them!—Never did town-meeting resound with louder acclamations, on passing resolutions for the regulation of commerce, than the street does upon their release from the school room. In these young minds, there is no disguise: these children act themselves; and the plain language of their conduct is, that learning is repugnant to nature, and that we destroy their happiness, by adding to their knowledge. *Mamma* too will help to vindicate the truth of our assertion; for although she feels not the force of the impression, yet she knows its operation on the child. If master misbehave, she threatens him with being sent to school: if he will not go to sleep, *mr. Birch*, the tutor, is to be sent for. What is this, but acknowledging that both the institution and the instructor are enemies to our happiness?

Thus, most respectable audience, you see that nature speaks the same language both in young and old; and that in vain do we seek for comfort, while science is cultivated among us.

The history of the church will furnish another proof that knowledge is prejudicial. What sweet tranquility did she enjoy in the days of ignorance!—how lovingly did christians go to heaven together! but no sooner had those incendiaries, Luther and Calvin, inspired the vulgar with a thirst for information, than fire, sword, and persecution raged with relentless fury, and swept off millions of mankind. Such bitterness of spirit immediately took place, as made

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each party fix the fate of its opposers, and doom them to perdition: nor could the father of the church put an end to the miseries of his beloved children, though he was armed with all the terrors of an inquisition. The translation of the scriptures into a known language baffled all his attempts to restore their former ignorance, and produced such an endless variety of sects and opinions, as have ever since disturbed the peace of society.

Our passions furnish a striking hint in favour of ignorance; for why should they so strongly impel us to dissipation, if knowledge, to which it is an avowed enemy, were of any use? Is not their language the same with that of Solomon (who knew a great deal, for the day in which he lived) "in much wisdom is much grief; and he, that increaseth knowledge, increaseth sorrow?"

And what, after all, is this mighty thing, called knowledge, to attain which we must throw away several of the best years of our lives, and endanger our constitutions, by exposing ourselves to the inclemency of every season? Why, forsooth, the art of using uncommon words, to excite the admiration, and perplex the understandings of common people, without conveying one uncommon idea. What advantage can be derived from physicians using the words mastication and deglutition instead of chewing and swallowing; or the lawyer's covering, with the terms replication, rejoinder, demurrer (and others equally insignificant) the arts by which he conjures your money into his own pocket? Indeed, I must confess, I have heard of one instance, in which the use of what the vulgar call a hard word has been of service:—A divine once mentioned metaphysics in his sermon, and a woman in the congregation was very happy upon hearing it; for she sup-

posed him to mean, that the gospel was good for both *meat* and *physic*: but for the consolation this afforded, she was more indebted to her ignorance, than to any thing else.

Of all kinds of learning, philosophy conceals the best fund of stupidity under a shew of very great knowledge. What does the professor of this science mean by his hydrostatics, pneumatics, optics, astronomy, &c.? Why, truly, to inform you that water will not run up-hill—that the wind blows sometimes one way, and sometimes another—and that there are stars in the firmament, whose distance and size he knows nothing about.

It will be worth while to attend a little to the pursuits of philosophers. See the great sir Isaac Newton, gravely sitting over a tub of water, with a pipe in his mouth, blowing air-bubbles; and at other times dropping pebbles from the top of St. Paul's steeple, both which a boy of twelve years old could have done full as well as he: but this is philosophy. I have heard of his being so busily engaged in thinking of some philosophical tricks, that he made use of a lady's finger instead of a tobacco stopper: and yet this same sir Isaac, (with all his nonsense and inattention to politeness) is said to have been a good scholar and a great philosopher. Follow the virtuoso; see what a dance a butterfly can lead him; and with what care he saves a moth, which all the world besides himself would wish should be destroyed: he is a *philosopher*.—There's another.—A man who thinks of nothing under heaven but *antiquity*:—he has a large estate in ancient coins, and yet can hardly find money enough to go to market:—he would give an hundred guineas (if he had them) for the *male tick*, which was preserved in Noah's ark, and thrice that sum for an authentic copy of the deed by

which St. Peter conveyed the lands of infidels and heretics to the pope. Such are the sons of science!—Blessed ignorance! thy votaries know no such follies—no such toils as these.

Men of education are constantly haranguing on the advantages of learning; and in many parts of the world, have had much success: but it must give infinite satisfaction to every lover of his country, to see that the good sense of America will baffle their attempts amongst us. Here no man meets with respect on account of his knowledge; and the teachers of the sciences (those of dancing hair-dressing, and millinery excepted) are held in the utmost contempt, and ranked with the lowest of the people. Should our present fondness for ignorance continue, America may become the Elysium of the world. To encourage us in this expectation, let us briefly review some of the advantages we have already derived from it.

All the skill of British financiers has only served to saddle their nation with a debt of two hundred millions of pounds sterling; while America, ignorant of the subject, has reduced a debt of two hundred millions of Spanish milled dollars to less than five.

Again: while we remained ignorant of the true nature of a circulating medium of trade, our legislators could stamp what value they thought proper, upon a scrap of paper:—it became a penny, a Spanish milled dollar, a pound, a half johannes of Portugal,—or any thing else at their pleasure: but the moment we were informed of its intrinsic worth, the imaginary value vanished, and the rag dwindled into its original insignificance.

Here we have the most incontestible evidence, that ignorance exceeds knowledge at least in the ratio of one hundred and seventy-five to one.

Many other instances of the benefits we have received from igno-

rance might be enumerated; but these shall suffice, that I may not impose upon that patience to which I am indebted for so indulgent an attention.

Upon the whole, whether we form our judgments from the declarations of the wisest of men, from the dictates of nature, or from our own experience, we may conclude, that ignorance is preferable to knowledge: and should any man be so unfortunate as to possess the latter, it will be a mark of prudence in him (as Solomon judiciously suggests) to conceal it.

Since then all knowledge is at best but vain—

Since it not lessens, but increases pain—

It is most evident, we may conclude,  
That in sheer ignorance consists all good;

That to be happy, we need know no more

Than (nor so much as) two and two make four:

And therefore, as they care for nought that passes,

The happiest creatures in the world are asses.



*To the printer of the American Museum,*

SIR,

If you think the following deserves a place in your publication, please to insert it. It is one of several pieces, similar in complexion, which were written, chiefly, in the course of the late war, as moments of leisure occurred to the author. They were intended for his private amusement only—not wantonly to sport with the feelings of others, but to habituate his mind to the abhorrence of vice, and the contemplation of virtue. Whatever severity, then, may appear in the composition, it must be remembered, that the vices and follies he paints,

are copied from real life, and intended as shades to raise virtue on the foreground of the imagination. Most of the facts introduced, are too generally known, not to be remembered. Some of the characters he drew, have since lost their originals; of which number, is the following. But their vices survive—in the memory at least: *Them he attacks, to root out the base of example, and to guard us against the choice of improper men.* As it is sometimes necessary to dissect the dead, for the benefit of the living, the writer hopes for the indulgence of the candid, notwithstanding the adage, "*de tuis nil nisi bonum.*" T.

Philadelphia, March 31, 1788.

*Advice to the inhabitants of the united States.*

"*A satirist's smile is sharper than his frown.*"

AS the growth and disposal of offices, will, probably, be among the fruits of the present revolution, a few words of advice how to court and merit them are the object of the following lines. To such of you as shall aspire to the favours of the country in which you live, they are humbly offered as the result of reflexion drawn from experience.

The old-fashioned mistake, that merit is the criterion for public favours, is here exploded. Let no man, therefore, be he native or foreigner, who looks for preferment, confide in an axiom so delusory, and which, like the *ignis fatuus*, can only dazzle to mislead. The dictates of the conscience are too *state* and arbitrary to be relished by a *new* and *independent* nation. As to gratitude, it ought never to be mentioned, but to fill up a vacuum in conversation; and then you must be sure to heed it, as the excrescence of a principle unfriendly to liberty. The ends of unlimited

freedom are only to be obtained, by following impulses that are voluntary: all others are fetters on the will and dignity of a free people.

Are you a foreigner, and have you been arraigned at the bar of justice abroad?—despair not: you have come to a country tenderly disposed towards the frailties of your nature: *humanum est errare*: any *faux pas* you may have committed there, will render you not the less worthy here. It will rather serve as a foil, to set off your brilliant qualities. Burnish them with a sprinkling of modern patriotism, and you may count upon greatness and fortune—if not fame. Should prudence guide your choice of local situation (and here is a capacious field for the exercise of discernment) particular traits of character may recommend you to the virtuous suffrages of the place, and perch you on the pinnacle of state-power. A seat on the federal floor may next reward your just expectations, and post you in the road to wealth. *Consequence*, I am presuming, you have already acquired: but *wealth*, you know, is the crowning prize, for which every good republican ought to contend. Should, however, your address *there* happen to miscarry (a thing not impossible, where other claimants are to be gratified) take courage! a liberal state will not fail to blunt the poignancy of disappointment by an increased attention to your deserts at home.

As there are scoundrels in all countries,—perhaps, on your return, some pert busy fellow, pretending to know more of you than he ought, may dare to talk to you of a *cardinal* or *incredibly* utter in your ears, the *escape*

#### NOTES.

\* The printer has taken the liberty of omitting the name of a deceased character, whom the author here has in view. † A halter.



they have had: but do not be dismayed; he only envies your good fortune. A smart repartee, though it may not discomfit your enemy, will carry you through with *celat*—such as, ‘a mile is as good as a mile,’ or the like. This will entitle you to the laugh—and “let him laugh that wins,” you know. Besides, you are not to be told, what every *pettifogger* knows, that “*possession* is equal to eleven points in law;”—you need not, therefore, be over-scrupulous as to the *simple tenure* of your ears: if you do not hold them *de jure*, they are yours, nevertheless, *de facto*; and you can give the *special matter in evidence*.

I will suppose you once more in the chair of government: observe, then, that occasional inebriation, especially if prudently administered in the morning, gives a flow to the animal spirits, and quickens the digestion of fancy: it curbs the disagreeables intruded from the pillow, and will add a dash of spirit and brilliancy to your actions during the day. It is a precaution which, so far from impairing your pretensions with a discerning public, must render them more conspicuous, and enhance their value. If your person be maimed (no matter how) and entitled to a crutch, you may, now and then, brandish the latter, and exercise it to advantage, over the heads of your council\*. It will exhibit a *striking* proof of the *weight* of your *understanding*, in civil affairs, and establish your reputation for *discipline*, as *commander in chief*.

There is hardly any circumstance, however small in itself, that an inventive genius may not turn to account; and who knows what honours you may reap from the free exercise of yours, should fate kindly spare your valuable life!

The dignity of the state over which

you preside, will require a table for those who may deserve the honour of your card. You will there enjoy privileges of indefinite extent, controllable only by good manners—of which, *ex officio*, you must be the judge. Should the present state of warfare throw in your way a captive officer, his situation will doubtless command your generous attention, and procure him admission to your hospitable board. The glass will necessarily circulate after dinner, warm the heart, and give a liberal turn to the conversation. If your captive guest be an Irishman, he will be apt to pique himself upon having you for his countryman: but cut his presumption short, by an immediate recurrence to your respective situations—he a *prisoner*, and perhaps, a *subaltern* officer; you a *governor at large*, and *commander in chief*!—It would be a further proof of your consequence and good breeding, if you were to blackguard the British king, and all his *adherents*—*painting* your speech with some such acclamation as, “I heartily renounce Ireland for ever.” Perhaps he may give you the retort courteous, as for instance, “in the name of all Ireland, by Jafus, I humbly *tant* you:”—but you can easily silence such impertinence, by ordering a constable † to lay the offender by the heels. Should he be so rude after this as to return your politeness and hospitality with a challenge, you can parry his thrust, without coming to points: retire behind your rank; tell the rascalion to send you his *king* to receive satisfaction; for that your dignity would be insulted, by entering the lists with a *subject*. This will confound your antagonist, and leave you in the quiet possession of a *whole skin*.

NOTE.

\* This happened at Augusta.

NOTE.

† A cant term, well known in drinking.

## POEMS: by the late dr. LADD.

*To Amanda, with Emma Corbet.*

**A**MANDA, view the soft, pathetic lines,  
Where tender love and glowing genius shines;  
Where Emma weeps; where hapless Henry draws,  
The heart-felt tear, in love and virtue's cause.

Yes, Emma weeps; behold her sorrow rise;  
View the dear dew-drops trembling in her eyes.  
See, round her Henry's corpse the mourner moves,  
She dies—the martyr of unhappy loves.

So the poor turtle, desolate and lone,  
Breathes to the winds his melancholy moan;  
Mourns his lost love, with many a plaintive coo,  
And sighs his soul out with the fond adieu.

Amanda, say—by such sad scenes impress'd,  
What gloom pervades the sorrow-teeming breast!  
How weeps the soul! what sighs the bosom swell!  
Speak, angel-softness, for thou best canst tell.

Here oft thy Arouet's manly bosom glows,  
And the soft tear all sympathetic flows:  
Full oft for Emma, lovely maid, distress'd,  
His tender heart-strings vibrate in his breast:  
For Henry, oft the bursting sighs give place,  
And the soul melts on his impassion'd face.

But while, embosom'd in this vale of tears,  
Increasing woe on ev'ry side appears;  
If right the bard, Amanda, can divine,  
Fair happiness shall be for ever thine.

Th' indulgent care of providence shall bless  
Thy lovely mind, and ward off keen distress.  
Joy shall beam on thee with her sun-shine rays,  
And peace eternal gild thy happy days.



*Sonnet: Humbly inscribed to the naiads of Ashley river.*

*Tune—"Maid of the mill."*

**H**AIL, sweet Ashly river, whose serpentine flow  
Gives health, and gives pleasure around.  
I hail thee, sweet river, for well I do know  
The charms on thy banks that are found.

The lovely fair op'ning, that breaks on the sight,  
The prospects, by nothing confin'd,  
Have fill'd my whole soul with ideas of delight—  
Have fir'd and enraptur'd my mind.

Then O, when the sun-beams reflect from thy stream,  
 In thy neighbourhood may I remain!  
 I'll sing of my absent AMANDA'S esteem:  
 And thou shalt re-murmur the strain.  
 Should any, inquisitive, ask whence belong,  
 The soft flowing sounds they have heard;  
 O tell them, sweet river, 'tis AROUT'S song;  
 The plaintive, the sorrowful bard.



*Elegy.—Sacred to the manes of Philander.*

*Written on a rainy tempestuous morning.*

**L**O! clouds on clouds, obsequious to the blast,  
 With spreading gloom the face of heav'n o'ercast,  
 Down pours the rain and thirsty earth receives  
 The humid burden—pattering from the eaves,  
 Whilst her dark wing, black Melancholy spreads  
 O'er ev'ry joy, and wraps the mind in shades.

Come, heav'n-born muse, for tragic sweetness known,  
 Where high thou shadow'st thy cœrulean throne;  
 In this dark hour to lend thy vot'ry aid,  
 From brighter realms—descend, celestial maid.  
 Since none like thee, among the tuneful nine,  
 Can melt the soul in sympathy divine:  
 Since none like thee, beyond the grave can give  
 The poet's or the patriot's name to live.  
 Lo, rais'd by thee, the mounting bard would soar,  
 Beyond all view—sublime in tragic lore:  
 O come! the great immortal thought inspire,  
 That ev'ry line may glow with native fire.  
 Then whilst I sing, for ever sacred be  
 The lays,—PHILANDER, for I sing of thee,  
 Thee with dire frowns the ruthless fates beheld,  
 When o'er thy bark the bellying canvas swell'd;  
 Consign'd by them, BRITANNIA'S sons enslave  
 Those freeborn youths who press th' Atlantic wave.

“Oh could I fall,” th' undaunted brave might say,  
 “In arms of conquest and the face of day:”  
 “Could I expire,” the peaceful swain might cry,  
 “My friends around me, all my kindred by;  
 “Then would grim death his friendly aspect wear,  
 “Nor all his terrors shake my soul with fear.”

But ah! PHILANDER no such blessing knew;  
 No weeping kindred took their last adieu:  
 All unbemoan'd th' aerial spirit flies,  
 And swift revisits its paternal skies.

When the tall oak, amidst tempestuous gloom,  
 From heav'n's own thunder shades the lowly broom,

If o'er its head the livid lightnings burst,  
Rive the big trunk, and level it with dust—  
Each shrub laments the fall—and, full in view,  
A mournful chasm—tells them where it grew :—  
So fell *Philander* : and where once he stood,  
We long shall mourn the generous and the good.

Ye sons of *Pæan*, by your parent led,  
Weep round his grave, and mourn your brother dead.  
Like you, he once approach'd, with sweet relief,  
The house of sickness, the abode of grief,  
With gen'rous ardour, striving to impart  
The heav'nly blessings of the healing art.

With no rash tread, ye passers-by, presume  
To print the ashes on *Philander's* tomb :  
But, ever sacred, may the lone retreat  
Be solitude's supremely-awful seat :  
Round all the place, may mournful cypress grow,  
And death's dread angel keep his charge below.



Fragment of an epistle to a friend, who had desired the author to write some  
acrostics.

**M**UST still such themes the poet's verse profane  
Will still the shade of Addison refrain ?

Ah ! no—before my sight the spectre stands,  
And waves my sentence in his deathless hands ;  
O much lov'd friend, my valu'd *Hill*, no more  
For such low themes th' unready bard implore ;  
Direct the muse to some far nobler view,  
Some heaven-born theme, some subject worthy you :  
Then would the bard with far sublimer fire,  
Raise the bold song, while heav'n and you inspire,  
If, soaring high, in epic verse he sings  
The fate of empires, and the fall of kings ;  
How great Achilles, furious to destroy,  
Withstood the force of heaven-defended Troy ;  
'Till o'er her turrets wav'd th' aspiring flame,  
And left all Illium nothing but a name ;  
Or, Maro like, on Pegasus wings,  
In friendship's cause, attune the trembling strings !  
How Nisus lov'd—how Euryalus burn'd,  
And flame for flame the virtuous youths return'd.  
Illustrious pair ! by mutual fates ally'd,  
Nor death's grim king their union could divide ;  
E'en the stern soul of great Pelides mov'd,  
Lov'd by his friend, by his Patroclus lov'd.

Yet, if no spark of glowing genius shines  
Thro' the long train of these increasing lines—  
For friendship's sake, the humble verse receive,  
Your bard's presumption, and his lays, forgive ;  
Once read him through ; and, if your patience tire,  
Condemn the culprit to an instant fire,



## Foreign Intelligence.

*Vienna, February 16.*

**A**N express has brought intelligence that pacha Mahmud has gained a complete victory over his enemies.

A blow has been already struck. No sooner was the declaration of war made known in the army, on the 9th of February, than general Devins, commandant of the troops in Croatia, commenced his operations by the attack on the fortress of Drefnick.

The execution of this enterprize was confided to col. Poharnik, of the regiment of Carlstadt. He first summoned the Turks to surrender, with an assurance, that, if they gave up without resistance, they should meet with the protection of his imperial majesty. To this summons, their only answer was, the discharge of their artillery! The colonel made a similar reply, from the mouths of his cannon with such effect, that the whole place was soon in a blaze, and the garrison almost entirely destroyed.

In another quarter, the imperial troops have not experienced the same success. Lieutenant-colonel Kefnovick passed the Unna, to attack the Turkish castle of Dubiza: in this project he failed, and met with some loss.

*Frankfort, Jan. 25.*

The Ottomans have formed four great armies: one, in Servia, of 100,000; the second, in Bosnia, of 60,000; the third in Bessarabia and Moldavia, where the chosen artillery are; and the fourth, in the Crimea, of between 20 and 25,000 men.

The Russians were preparing to lay siege to Oczakow, when the last letters came away.

*Hague, Jan. 29.*

We have accounts from Paris, that eight magistrates have refused to assist at the sittings which are to precede the restoration of the protestants to their civil rights; and we also learn, that they are not very well pleased at Versailles, with the flattering reception M. de Calonne has met with in London.

*Dublin, January 29.*

*Extract of a letter from Louvaine.*

By the late accounts at Antwerp, it appears that 16,800 Dutch have passed that city in their way to France; 216 left this city, last Tuesday morning, to go to Lisle.

*London, Jan. 1.*

The fugitives from Holland, it is said, have purchased land in France to the amount of 1,500,000 florins.

*Feb. 1.* Yesterday lord George Gordon appeared in the court of king's bench, to receive the sentence of the judges, in the case of a libel, of which he had some months before been convicted—His lordship made both in dress and in aspect, an appearance truly Mosaic.—His beard extended a considerable way from his chin, and over his face; and his countenance seemed solemn and sanctimonious—He received the sentence of the court with much apparent humility; which was,

For writing and publishing the prisoners' petition, to be imprisoned in Newgate, for three years.

For writing and publishing the libel on the minister of the French court, to be imprisoned in the same jail for two years, to commence from the expiration of the first sentence.

To pay the crown a fine of 500l.

To enter into a recognizance, at the expiration of his imprisonment—himself in 10,000l, and two sureties in 2,500l. each, for his good behaviour, for 14 years.

Lord George was quite silent; he was dressed in a drab-coloured coat; his hair, as usual, undressed; his beard of a considerable length.

By the accounts which have been published in Paris, of the population of that city for the year 1787, it appears there were 20,378 baptisms, 18,139 deaths, 5912 infants found, 5505 marriages, and 107 who took the veil; so that there were 2239 baptisms more than deaths.

*Feb. 2.* The protestant edict is at last carried in France, there being only eight members who opposed it; they were the archbishop of Paris, the bishops of Chalons and Beauvais, two abbés, M. M. Givis, d'Epresmeuil, and St. Vincent.

*Feb. 4.* General field marshal Laudohn, well known for his military talents, and determined bravery in the war of 1737, undertakes, at the wonderful age of 70, the conquest of Moldavia: while the emperor, in person, takes upon him the command of the army in Hungary, consisting of 200,000 men, which being divided into different bodies, will attack the Turks in Servia, Bulgaria, and Bosnia.

A third army will be stationed in Galicia, which, with the Russians, who are to join it, will amount to 80,000 men, and can, with great facility, act in concert with the grand army of the empress, which is already on the borders of the Ukraine, and of Podolia.

It is resolved to enter Moldavia by two armies, at two different places, at the same time: the Austrian forces will penetrate into it by Buckowine, and the Russians by the Polish Ukraine.

A letter from Vienna, dated Jan. 9, says, "it was reported, some days ago, that a fresh attempt on Belgrade had been made; but we have reason to doubt it; as the accounts from Esclavonia, of the 12th December, made

no mention of it. They nevertheless confirm the report that the imperial troops there are making dispositions, which seem to portend some grand stroke to be struck soon, which caused it to be said yesterday, that something important had happened, on the 2d instant, in those parts."

*Feb. 15.* Mr. Adams, the American ambassador, takes leave of our court, previous to his return home, in the course of next week.

*Feb. 16.* This day is the commencement of Mr. Hastings's trial, on a charge of high crimes and misdemeanors.

All those who had contributed to the defence of Utrecht, are condemned to exile, for three years, from that province.

*March 1.* An official notice was delivered on Sunday the 10th instant, at three P. M. by prince Kaunitz, to all the foreign ministers, at Vienna, that the emperor had found himself obliged to declare war against the Turks; and that he hoped, in a cause so good, that the vows and wishes of all Europe would accompany him in his endeavours against the enemies of christianity.

Couriers were dispatched to Versailles and Petersburg: and, on the 27th last month, orders were sent to baron Herbert, at Constantinople, to declare war. It is therefore highly probable that that internuncio is lodged with the Russian minister, in the Seven Towers.

*March 6.* By a gentleman who arrived yesterday from Germany, we learn, that an account had arrived at Vienna, of the imperial troops having invested the important city of Belgrade, which, it was expected, would make a very powerful resistance.

The empress of Russia has now avowed her intention of driving the Turks out of Europe, and of giving the sovereignty of that part of the Ottoman dominions to the grand

duke's second son, who is to hold it as a tributary prince to Russia.

Since the emperor's declaration of war against the porte, the French court have, it is said, sent a notification to our government, informing them, that by a treaty, subsisting between them and the Turks, they are under the necessity of supplying the latter with six ships of the line.

A letter from Bourdeaux, dated Feb. 18, says, "the public discontents in this city do by no means decline; nor are they likely to be settled, till the affairs of the parliament are put upon what we now conceive to be a constitutional footing. The rage of absolute monarchy is rapidly declining; and, though a Frenchman will probably never lose his favourite maxim of *vive le roi*, yet we begin to conceive that slavery is a badge too galling for any but the most abject of the human species."

## AMERICAN INTELLIGENCE.

*Boston, March 22.*

In a revenue bill which passed the hon. legislature yesterday, the clauses in the act heretofore in force, laying a duty on advertisements, writs, executions, and deeds, not registered in six months, were repealed.

*Newport, (R. I.) April 3.*

The following is the result of the proceedings in this state on the new constitution:

Newport, Providence, and Westerly, did not poll, but gave instructions to their deputies in general assembly, to have the constitution referred to a convention, where it could be legally and properly determined.

In Warwick and Greenwich, no yeas were given, the federalists having entered a protest against the al-

teration of the mode of decision, as illegal and unprecedented.

In Bristol and Little Compton, there was a majority of votes for the new constitution.

The other towns generally negatived the constitution; their majorities will appear larger, as the federalists declined giving their votes in town meeting, upon a question that is resolvable only by a convention of the people.

It is therefore presumed that the legislature will consider this act, altering the mode of decision, as aborative and nugatory—and not offer to the united states and to the world, a partial decision on the constitution, as being the voice of the people of this state—for it is an indisputable truth, that the nays returned, do not form a majority of the freemen and freeholders of the state.

*New York, April 1.*

By order of congress, the postage of letters is reduced 25 per cent.

*April 12.*

*Intelligence from the state of Franklin.*

*Transcript of a letter from general Ruffell, dated 9th of March, 1788.*

"You have heard that governor Sevier had besieged col. Tipton's house, and had offered terms of capitulation; which being rejected by Tipton, he sustained a fire from the governor's whole body of troops, without damage to any in his house. Two women were sent out in the day time on some occasion, one of whom received a ball through her shoulder. The experienced general, to shew his abilities in war, attempted to fire Tipton's house, by a moving battery, which he employed early one morning. Col. Maxwell stole a cautious march, surprized the governor and his party, by the first fire, and forced the governor to retreat without his boots. It seems the

retreat was intended to gain an eminence, not far from the encampment; which being recovered by Sevier's party, they returned some shot on Maxwell's men, killed one, and wounded one or two more; but the force of the latter charging with firmness, soon dislodged Sevier, and effected a total defeat; we learn that 12 are dead of their wounds, and that the governor was seen 15 miles from home, barefooted. The last account says, both parties are raising more men: how it may end, God only knows"—

*April 24.* A hog was lately killed at Mr. Harrington's slaughter-house, in Middletown, which weighed, including the whole of the lard, 600 pounds.

A letter from New Providence, dated March 27, says, "these islands since the peace, have been in a continual uproar, by a violent and rancorous dispute between the inhabitants and the American refugees, the latter conceiving themselves entitled to the greatest share in the affairs of government, and every other indulgence, to the total exclusion of their more honest fellow subjects. As soon as Lord Dunmore arrived, they, in a tumultuous manner, and in terms far from polite, addressed, or rather required of him, immediately to dissolve the house of assembly, because some of the old inhabitants were in the legislature, and set forth, that their respectable corps were not sufficiently represented, not forgetting to remind his lordship of their unshaken loyalty during the American contest, and the great sacrifice of property they had made, in support of the royal cause; his lordship has thoroughly investigated the affair; and the malignity and turbulent spirit of these fugitives appearing fully in his lordship, he has refused to comply with their unreasonable requisitions; and, to all their long ad-

resses and harangues, both in and out of the legislature, he has given them the following laconic answer: "I do not think it expedient for his majesty's service, to dissolve the present house of assembly."

A letter, dated, Lake Champlain, March 18, 1788, says, "Lord Dorchester has ordered the people, ten miles on this side of the lines, to be enrolled with the militia of Canada—they are to choose their officers next week, are to be governed by the laws of that province, and protected by the same. As soon as the ice on the lake breaks up, the ship Maria is to come up the lake, ten miles, to keep up order and regulation, if necessary."—

*April 25.* As exaggerated accounts of the late riot in this city have been circulated through different parts of the country, we have obtained the following particulars of that unhappy event.

During the last winter, some students of physic and other persons had dug up from several of the cemeteries of this city, a number of dead bodies, for dissection. This practice had been conducted in so indecent a manner, that it raised a considerable clamour among the people. The interments, not only of strangers and blacks, had been disturbed, but the corpses of some respectable persons were removed. These circumstances most sensibly agitated the feelings of the friends of the deceased, and wrought up the passions of the populace to a ferment.

On Sunday, the 13th inst. a number of boys, we are informed, who were playing in the rear of the hospital, perceived a limb which was imprudently hung out of a window, to dry: they immediately informed some persons—a multitude soon collected—entered the hospital—and, in their fury, destroyed a number of anatomical preparations; some of which, we



are told, were imported from foreign countries—one or two fresh subjects were also found—which were interrupted the same evening. Several young doctors narrowly escaped the fury of the people; and would inevitably have suffered very seriously, had not his honour the mayor, the sheriff, and some other persons, interfered, and rescued them, by lodging them in jail. The friends to good order hoped that the affair would have ended here: but they were unhappily mistaken.

On Monday morning, a number of people collected and were determined to search the houses of the suspected physicians. His excellency the governor, his honour the chancellor, and his worship the mayor, finding that the passions of the people were irritated, went among them, and endeavoured to dissuade them from committing unnecessary depredations. They addressed the people pathetically, and promised them every satisfaction which the laws of the country can give. This had considerable effect upon many: who, after examining the houses of the suspected doctors, retired to their homes. But, in the afternoon, the affair assumed a different aspect. A mob, more fond of riot and confusion, than reliance upon the promises of the magistrates, and obedience to the laws, went to the jail, and demanded the doctors who were there imprisoned. The magistrates, finding that the mild language of persuasion was of no avail, were obliged to order out the militia, to suppress the riot, to maintain the dignity of government, and protect the jail. A small party, of about eighteen armed men, assembled at three o'clock, and marched thither—the mob permitted them to pass through, with no other insult than a few volleys of stones, dirt, &c. —Another party, of about twelve men, about an hour afterwards, made a similar attempt, but having no

orders to resist, the mob surrounded them, seized, and destroyed their arms. This gave the mobility fresh courage—they then endeavoured to force the jail, but were repulsed by a handful of men, who bravely sustained an attack of several hours. They then destroyed the windows of that building with stones, and tore down part of the fences. At dusk, a party of armed citizens marched to the relief of the jail; and, as they approached it, the mob, huzzaing, began a heavy fire with stones, brick-bats, &c. Several of this party were much hurt, and in their own defence were obliged to fire; upon which three or four persons were killed, and a number wounded. The mob shortly after dispersed.

*Kentucke, April 4.* It is with the most sensible concern, we announce to the public, the capture of three boats, on the Ohio, near the big Miami, by the savages. Familiarised, as we have been, for several weeks past, to murder, and robbery, at almost every point of our frontiers, the sympathy of all ranks has been excited in an extraordinary degree by this deeply affecting catastrophe. Among the passengers in these boats, it is with great regret we mention Samuel Purviance, esq. of Baltimore-town, mr. Ridout, of Maryland, monf. Ragaut, and two other French gentlemen, one a mineralist, the other a botanist, destined to explore the natural products of this country, a mr. Pierce, of Maryland, and a mr. Ferguson, a trader; besides these gentlemen, there was a mr. Gray Garland Simmons, five other men, and a negro woman. The three French gentlemen and mr. Pierce, who alone occupied one boat, were attacked on the 26th ult: from circumstances we are authorised to conclude, that the other boats were taken on the 21st: as they passed Limestone on the 19th. The savages had in their possession a

at, in which eight or ten of them have chace to the French gentlemen, who, finding they could not escape, determined to present a white handkerchief, with other demonstrations of friendship, and surrender without resistance; for this purpose, Mr. Ragaut took post at the stern of the boat, and, when the savages had approached very near, he offered his hand; and, in return, received the barbarian's tomahawk; at the same instant, the botanist was shot dead, and the mineralist badly wounded; the boat at this time having drifted near the shore, Mr. Pierce, and the surviving French gentleman, jumped overboard, and the current being rapid, the savages passed them, whilst they were butchering and plundering Mr. Ragaut, and the other victim. They with difficulty gained the shore; and, under cover of the night, made a circuit, and fell in with the river, below the savages, where they were, the next day, taken up by a boat, and conveyed to the rapids the day after. These are all the circumstances we have been able to collect on this melancholy occasion. There remains no doubt, that the two boats first mentioned, have been captured, as one of them has been taken up at the rapids, and the other was seen in possession of the savages; but the fate of the captives is uncertain—Two boats a few hours in front of Mr. Ragaut, under the direction of Captain Balliard Smith and a Mr. Hinds, were attacked at the same place, from the shore, but they returned the fire, and escaped without further injury, than two horses wounded: and it is said two Indians were killed in the attack.

*Philadelphia, April 30.*

The planters of South-Carolina are making experiments in the culture of cotton, and they have proved hitherto very satisfactory, promising great profit. We hope to see their

cotton bags, before long, the wool-packs of America. We learn that they have got the gin, or machine for cleaning it, by which the profit of raising it must be much increased. How flourishing would South-Carolina and Georgia soon be, with proper economy, and under a good government, who, to their old valuable produce, rice and indigo, have lately added tobacco and cotton? The latter articles may be of considerable consequence to the coasting trade, which will probably be confined, by the general government, to American bottoms, as such a regulation would not at all interfere with the necessary open market to foreigners. The large towns, in the middle and northern states, will probably become the scenes of considerable cotton manufactures, and to them the raw cotton must be transported from the places of its growth. This domestic branch of the carrying trade, from port to port within the union, is becoming daily more important. The Virginia collieries now employ a good deal of tonnage, and new discoveries, on the Hudson, Delaware, or Chesapeake, will, it may be hoped, increase the benefits of this branch.

*Extract of a letter from Baltimore, dated April 28.*

"Our convention have adopted the new constitution by a great majority—63 to 11—To-morrow it is to be ratified in form."

We are informed, that American vessels are received with great cordiality at Cayenne, and that the French government shew them every attention. Flour, and all kinds of provisions from the united states, find there a good market, the commerce of that colony being entirely free. It's population, which in the late war amounted to ten thousand souls, including negroes, is fast increasing. The plantations of sugar, coffee, indigo, pepper, cotton, cloves, &c. are in a thriving condition.

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